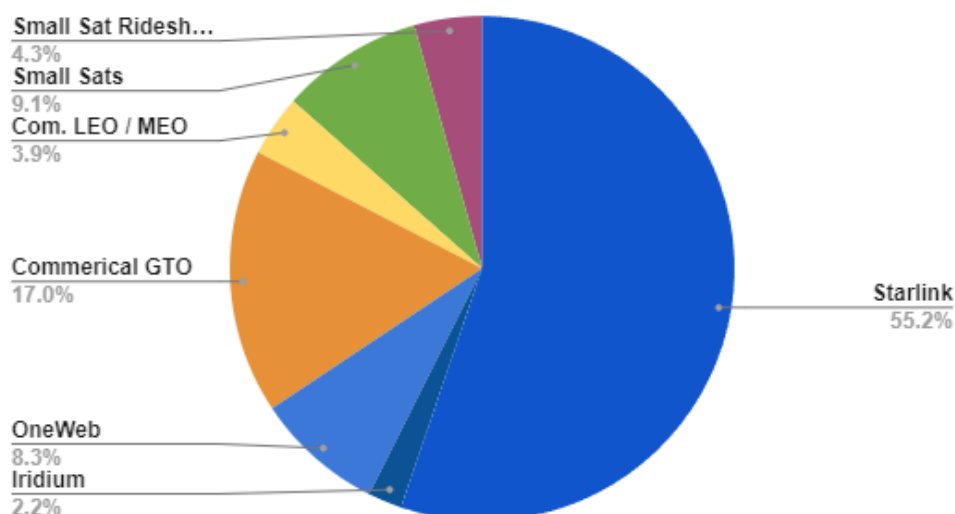


constellation.

Neutron will not take market share here and I don't believe Rocket Lab should put much effort into this as it is now a minor market compared to Constellations.

Constellations - The Next Paradigm

Commerical Launches By Type (2018-2023)



Constellations are the next paradigm in the commercial communication satellite market and what Rocket Lab claims Neutron is optimized for.

Constellations do not require high-energy orbits. Rather, they require high mass-to-orbit over multiple launches. So, there are no stringent minimum mass requirements for constellations as there are for GEO satellites. Total mass to orbit is the primary metric and this can be achieved by any rocket through increasing the total number of launches. Cost per launch per satellite is the metric that should be optimized for.

There are multiple LEO constellations waiting to be launched. Kuiper is the most well-known and there are many smaller constellation projects such as Iridium, OneWeb, Orbcomm, Intelsat, etc. Launch TAM in total until 2030 may be upwards of 10 billion dollars excluding Starlink.

Small Sat constellations are a minority of the market. Small sats can be launched on rideshare missions and do not require massive amounts of launches. To illustrate this point, Planet Labs currently has around 200 operational satellites in orbit and each Dove satellite weighs around 5kg. $200 \times 5 = 1000\text{kg}$. The entire constellation is only a couple of tons, if specific orbits weren't required, this could be done on a single Falcon 9.

Neutron's Competitive Position in Constellations

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		Falcon 9	Falcon Heavy	Neutron	New Glenn	Terran R	Vulcan VC0	Vulcan VC6	Ariane 5	Ariane 6 A64	MLV	Notes	Starship
2	Mass to Orbit												
3	LEO Expendable	22.8t	63.8t	15.0t	55.8t	33.5t	N/A	N/A	20.0t	21.7t	16.0t		
4	LEO Reusable	18.4t	28.4t	13.0t	45.0t	23.5t	10.8t	27.2t	N/A	N/A	N/A		150.0t
5	GTO Expendable	8.3t	26.7t	5.0t	19.6t	8.3t	N/A	N/A	10.9t	11.5t	5.0t		
6	GTO Reusable	5.5t	8.0t	3.0t	13.0t	5.5t	8.4t	15.3t	N/A	N/A	N/A		30.0t
7													
8	Fairing												
9	Fairing Diameter	5.2m	5.2m	5.0m	6.4m	5.0m	5.4m	5.4m	5.4m	5.4m	5.0m		9.0m
10	Fairing Height	13.1m	13.1m	10.0m	17.8m	21.5m	21.3m	21.3m	17.0m	20.0m	9.0m		20.0m
11	Payload Volume	222.6m³	222.6m³	157.1m³	451.0m³	337.7m³	390.3m³	390.3m³	311.5m³	366.4m³	141.4m³		1017.9m³
12													
13	Satellite Capability	<- Rough estimates from Mass & Volume											
14	Starlink V2 Mini	21	26	15	36	27	12	31	23	25	18		160
15	Kuiper (est.)	28	30	20	60	36	17	42	31	33	19		57
16	Iridium	10	10	7	20	15	16	18	14	17	6		46
17	OneWeb	40	40	28	81	60	70	70	56	65	25		182
18													
19	Rocket Info												
20	Launch Cost	\$60.0M	\$150.0M	\$40.0M	\$70.0M	\$55.0M	\$110.0M	\$110.0M	\$178.0M	\$115.0M	\$70.0M		\$100.0M
21	Launch / Year Limit	365	12	365	365	365	24	24	7	12	24		1825
22	\$ / kg	\$3.261	\$5.282	\$3.077	\$1.556	\$2.340	\$10.185	\$4.044	\$8.900	\$5.312	\$4.375		\$667
23													
24	Cost / Satellite												
25	Starlink V2 Mini	\$2.9M	\$5.7M	\$2.7M	\$2.0M	\$2.0M	\$8.9M	\$3.5M	\$7.8M	\$4.6M	\$3.9M		\$0.6M
26	Kuiper (est.)	\$2.1M	\$5.1M	\$2.0M	\$1.2M	\$1.5M	\$6.6M	\$2.6M	\$5.8M	\$3.5M	\$3.7M		\$1.8M
27	Iridium	\$5.9M	\$14.8M	\$5.6M	\$3.4M	\$3.6M	\$6.7M	\$6.2M	\$12.6M	\$6.9M	\$10.9M		\$2.2M
28	OneWeb	\$1.5M	\$3.8M	\$1.4M	\$0.9M	\$0.9M	\$1.6M	\$1.6M	\$3.2M	\$1.8M	\$2.8M		\$0.6M
29													
30	Market Fit (2018-2023)												
31	Commerical LEO / MEO	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	2 / Year	
32	Commerical GTO	87.18%	100.00%	53.85%	100.00%	87.18%	87.18%	100.00%	100.00%	100.00%	35.90%	8 / Year	
33	Small Sat Rideshare	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	4 / Year	
34	Constellation	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	~80 / Year	
35	Total Market Fit	97.83%	100.00%	92.17%	100.00%	97.83%	97.83%	100.00%	100.00%	100.00%	89.13%		
36													

[Click here for expanded version of chart or source](#)

Cost per launch per satellite is fundamentally what is being optimized when launching constellations, with [responsiveness](#) tied for first or in second place. Payload mass and volume are the primary determining factors for the number of satellites that can be launched. This is clear with Starlink as SpaceX was constrained by volume with v1 and now is constrained by mass on v2 mini.

Above you can see the cost per launch per satellite for current, under-development, and retired medium/heavy lift rockets for a few major constellations. Neutron must be priced far lower than other medium-lift rockets to be competitive at my price-per-launch estimates. If you'd like to use your own estimates, copy the spreadsheet and make your own adjustments.

Neutron will have to charge ~\$40M per launch to be competitive on constellations. This is not a consideration for other larger LEO/GTO satellites as they are not mass-limited. You can see this when Falcon 9 launches ~5t LEO satellites which is far below the 18.4t max payload.

SpaceX's original Iridium deal was \$492M for 8 launches which is \$61.5M per launch. If Neutron carried out this contract, it would have to launch ~13 times for \$38.7M per launch. Worse yet, Neutron is volume limited here as the 10 Iridium satellites are only 6.6t. With reusability, \$40M per launch is possible, but at significantly lower margins than the Falcon 9 and potentially other medium launch vehicles in the future.

Neutron's improved partially-reusable design over Falcon 9 shows some promise for lower costs, but design is not the hard part. SpaceX produces 100 F9 second stages per year and Falcon 9's marginal cost per launch is ~\$15M. It is [unlikely that Neutron's second stage will be cheaper](#) and

with the increased competition I am doubtful that Neutron will exceed 50 customer launches per year before the paradigm of fully-reusable rockets arrives. These points apply to their competition as well. Economies of scale will be difficult to achieve with Neutron and as a hopeful future RKL B investor I don't see lower costs than F9 as likely.

Conclusion

In my [recent video](#) on updates to my RKL B valuation model, the primary piece of intelligent criticism I received was about my comments about Neutron. I've spent the last 2 days and 12 hours in total researching and creating a model of the commercial satellite launch market to improve my understanding.

"Constellations are what you want to be aiming for. I'm not sure Neutron is optimized to launch constellations."

I completely misunderstood the cost per launch component. My fundamental criticism of Neutron is that because of its lower size compared to other medium/heavy lift partially-reusable rockets, it will have to charge much less per launch to be competitive. However, with the smaller size of Neutron and Rocket Lab's proven ability to development launch vehicles for low cost, Neutron may be well positioned to achieve lower launch costs than competitors.

"[For Neutron to efficiently launch constellations] it will have to land at sea with low payload volume with low payload mass. This is not the best architecture I'd say, something like relativity's Terran R I'd be more bullish on."

I completely stand by this statement. New Glenn appears to be the best partially-reusable rocket to launch mega-constellations from a design perspective. RTLS + High payload mass + Large fairing volume makes an ideal 2050 rocket. Neutron is suboptimal on all three of these metrics.

Execution is fundamentally what you should be concerned with in rocket development programs. This can be seen in the chart above as the Falcon 9 is suboptimal and yet launches the vast majority of satellites - world class execution is far more important than anything else. In the video I missed this point entirely as I was focused on being pessimistic about Rocket Lab to combat my inherent optimism as can be seen in my valuation estimates.

Rocket Lab has a proven track record and I believe they will be able to execute on the Neutron program while bringing in billions in profits over its lifetime. However, Neutron remains a suboptimal rocket.

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Patriotism is a Requirement

Jan 1, 2024 • Christopher Kalitin

I intend to become a citizen of the Land of Opportunity and do everything in my power to improve the nation. Albeit, until I find a place that aligns more closely with my ideals.

This is patriotism, being a net positive to your nation. I can't imagine living a net-zero or net-negative life, what's the point? Work to improve your life and the lives of your neighbors and family members. This is a fundamentally useful and positive life and everyone should strive for it.

Without a positive framework for living you fall into the trap of working for money or working for leisure. We should teach the kids to improve the future - pessimism is Death.

It appears religion used to serve this role. Christianity provides a good framework for living: Love your neighbours, have faith, forive, don't be hypocritical, repent and ask forgiveness for your sins, etc. This sounds like a life I would like to live. Go full Christian!

Under athiesm you need to create your own framework. Here you can fall into traps of nihilism, hedonism, or other -isms. It's okay to just be happy! You don't need to have kids anyway, it's so hard! The future is bad anyway, why bother? Nothing we can do! Not sure of who you are, maybe you're actually a woman!

It is very difficult to create your own framework for living. Religion provides this from birth. In the absense of religion, you better hope your parents raise you well and set good examples!

Back to the point: Getting good people together who want to improve their society is an amazing thing.

This is the goal of good immigration policy. Let in the net-positives, keep out the net-negatives.

You need an efficient way to sort potential immigrants. This requires quickly judging applications and only allowing those who are accepted into your country. Quotas or lotteries miss the goal: only let in the good ones. A limit to the number of immigrants can lead to missing good people and an insecure border leads to bad people getting in.

Patriotism is a requirement for immigrants. You must want to improve the country you are moving to. Give every immigrant and 18 year old a US history test in order to be allowed to vote.

This is the system I want to live under. I want to live in a country I want to improve and move when I find a better one.

Without patriotism, you lose your culture and the ideals of your country. 40% of people in Vancouver are immigrants and with a fertility rate of 1.1 the future of the culture doesn't look good. There are uses for multiculturalism, but it is unfortunate to lose your culture. I was driving through Surrey 3 days ago, it was very Indian.

Again, we should aspire to get like-minded people together to build a great future for their society. Patriotism > Multiculturalism.

Like many political institutions, current immigration policy in the Land of Opportunity misses the goal.

Why do I have to lie in University Admissions essays? If I were honest I'd say: "I'm not writing your idiotic essay prompt, here are 30k lines of code I've written and straight As. This proves I will be a good Comp Sci student."

Maybe the solution is political. Javier Milel gives me some hope, but I doubt that could happen in the US. Maybe there is a deep state.

There was a time in history when a new nation caused the transformation of the world to democracy. Maybe we need Mars to do the same.

What happens if the US loses its fundamental beliefs (based on Christianity). [Zuby and E](#) believe if the West loses Christianity it is screwed. Maybe they have a point. A group of people without common fundamental beliefs is not very useful to the future. Accelerate!

This has already been a ramble and I've been watching George Hotz streams from hours while being sick and groggy.

So, I'd like to use the end of this post to give a message my future self:

DON'T BE A SELLOUT!

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Only Make Bets You Can Win

Dec 17, 2023 • Christopher Kalitin

12:41 AM 🧑 Christopher Kalitin but where do you think twitter will be in a year

12:41 AM 🧑 midas nobody can say that for sure

🧑 midas elon musk might be assassinated

12:41 AM 🧑 Christopher Kalitin i will, I think it'll have more features, revenue, and users than now

🧑 Christopher Kalitin that's why it's a prediction haha

12:47 AM 🧑 midas my prediction is

🧑 midas elon is gonna fuck up SUPER badly

🧑 midas then act like he did the best job he could

🧑 midas leave

🧑 midas and then it'll just

🧑 midas sorta

🧑 midas exist

12:48 AM 🧑 Christopher Kalitin wdyu fuck up super badly, like twitter is down for a week? loses half its users?

12:48 AM 🧑 midas some kind of massive fuck up that prompts him to (dishonourably) leave

🧑 midas while acting like it wasn't his fault

12:49 AM 🧑 Christopher Kalitin alright ima pin that, we'll see in a year

About one year ago on November 20 2022, I had a very unproductive and slightly useless conversation with a friend. We debated (argued) about the future of Twitter. With my obviously immensely high-rung and intelligent thinking I came to the conclusion that Twitter would have more features, revenue, and users than at the time. He believed there would be "some kind of massive fuck up that prompts him [E] to (dishonourably) leave while acting like it wasn't his fault."

"Unproductive discussions always feel like talking to a brick wall / low-rung thinker, even when you're the low-rung thinker." - Tim Urban, *What's our Problem*" (paraphrased). Even with this context, it's clear to me I was the high-rung thinking. A dangerous thing to say, but only one of us is writing a blog post dissecting this bet.

This conversation was very useful to dissect and learn about human nature. This blog post is an exercise in the proper way to approach past experiences. Dissect them for all the insights you can gain. Obsessing and feeling anxious about past events in your life is useless, but extracting insights is immensely useful. It's annoying how few people do this. The most insightful moment of my life was my first gf breaking up with me. Why does no one else dissect their past relationships!

Who Won?

His win condition:

"some kind of massive fuck up that prompts him [E] to (dishonourably) leave while acting like it wasn't his fault."

1. Elon has not dishonourably left and has admitted mistakes (Eg. Portland Datacenter)
2. No massive fuck up that prompted him to leave

My win condition:

More features, revenue, and users

1. There are obviously more features (X premium, Subscriptions, Monetization, Livestreaming, View count, Community Notes expansion, Hiring, Calling, etc.)
2. Decrease in revenue with advertisers leaving (They don't believe in free speech) and a shift to other revenue sources.
3. Some debate based on different metrics if users are down or up. Daily VS MDAU Vs User minutes. For these purposes, I'll go with users being down.

He was 0% right, I was 33% right.

I WIN!

This is far too close a result for me to ever make a bet like this ever again. This illustrates the need for more concrete metrics when making bets (a single win/lose condition, not separate) and that when you bet you must put a lot of thought into your beliefs.

I was 33% right in my predictions. Good enough to win, but not to feel good about myself. 67% wrong = mostly wrong!

This stems from a misunderstanding of where Elon would take the platform. I had no clue advertisers would leave to the extent they did and the extent of the battle for free speech. If I had put more thought into it, this could've been explicitly predicted - although it would be very difficult.

I've made several bets (for low dollar amounts), and these have all been useful exercises. Making bets is an excellent way to check if you really believe something. Can you sleep at night after making that bet? If you're wrong you lose money.

Future of X

More predictions, this time with more thought put into them.

It is clear Elon wants to move X away from advertising as the primary source of revenue. I doubt advertisers will ever be completely rid of the platform, but other sources of revenue will become a higher percentage of total revenue.

The primary motivation to acquire Twitter and create X appears to be the facilitation of free speech. Advertisers in the way? Tell them to go fuck themselves.

"If someone is going to try to blackmail me with advertising, blackmail me with money? Go Fuck Yourself." - Balls of Steel

I hope X will gain more users as this shows the slow death of legacy media and the rise of free speech. On a long time horizon, I see this as likely, with the (temporarily) increasing human population if nothing else.

Feature development will obviously continue and the company will only employ the best available hard-working employees. As they should, who wants to work with lazy people?

1. X will slowly move away from advertising as a primary source of revenue.
2. User count will increase from today in the long term.
3. More features will be added.
4. X will become profitable within the next 5 years.
5. Free speech will be protected above all else.

Anyone wanna bet on these terms?

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Art Is Dead?

Oct 21, 2023 • Christopher Kalitin

Bo Burnham wrote [Art Is Dead](#) in 2010, well before 'Netflix-special' Bo Burnham existed.

The entire narrative of the song is incorrect.

The lyrics of the song describe regular working people who pay money and attention to artists. The thesis is that artists - teenage Bo Burnham particularly - do not deserve this attention and are inherently phoney.

This is obviously not a fully formed thought or thesis about the world. Instead, it is the opinion of a teenager. Almost like my blog posts!

I must be psychotic

I must be demented

To think that I'm worthy

Of all this attention

Of all of this money, you worked really hard for

I slept in late while you worked at the drugstore

Fundamentally the trouble is teenage Bo Burnham does not feel it is fair that he can do fairly little work for a vast amount of money while many people are in the opposite situation. He does not understand the free market. You monetize the value you provide, whether it is selling drugs, growing crops, or making people laugh.

This is the juxtaposition in modern society between the artist and the labourer. This isn't a particularly perfect framework, but some people think it's useful. Both the artist and labourer are fundamental to society. Both are absolutely necessary in different ways, as with men and women.

The businessperson and the manufacturer are more important than the writer and the artist.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly agree

Political Compass Test

The lyrics are fundamentally on the side of the business person and manufacturer. In other words, teenage Bo Burnham is obviously conservative. This appears to be attributable to a teenager not knowing who he truly is. This is what leads to the 'I'm depressed but it's funny' nature of Inside and millenials joking about themselves not being fully developed adults.

*Entertainers like to seem complicated
But we're not complicated
I can explain it pretty easily
Have you ever been to a birthday party for children?
And one of the children
Won't stop screaming
Cause he's just a little attention attractor*

*When he grows up
To be a comic or actor
He'll be rewarded*

...

These lyrics are an interesting take on how comedians come to be. Seems mostly accurate, I'll save the blog post on how we develop our personalities for the future.

*Art is dead
So people think you're funny
How do you get those people's money?
Said art is dead
We're rolling in dough
While Carlin rolls in his grave*

This is fundamentally where I disagree with the premise of the song. Yes, you're incredibly funny. Yes, you should make fuck tons of money for that. Maybe the comedy isn't as pure, but this allows for more comics. I love free markets.

The Mr Beast business model is the perfect anti-thesis to these lyrics:

1. Make a video about giving away money
2. Through the proceeds from this video give away even more money in your next video
3. Repeat until you possess and have given away infinite money

This is the most amazing application of monetizing attention on the internet. An infinite money machine centred around amazing content and giving away money. "We live in an attention economy." - Andrew Tate

We should aspire to have more Mr Beasts in the world. People who love their work and do amazing things with their skills. I don't want more slightly depressed and aimless 'adults' in the world.

Regardless, as with many other songs, I will continue to listen to it because it sounds nice. They're really gonna make me vote for joe biden.



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Waste Your Vote! Do What's Funniest!

Oct 17, 2023 • Christopher Kalitin



Some things I say are sarcasm, but all of my sarcasm is based in truth. This is evident in my first post. I will let you figure out where the line is.

If it is not already clear to you: your vote does not matter.

I will use [data from my riding](#) in the previous BC general election to illustrate this point.

In the past 3 elections in the Burnaby-New West riding the NDP has won with ~45% of the vote. This data only goes back 3 elections and there have been no real differences aside from independent candidates and minor parties joining and leaving the elections over the years.

I will bet \$1000000 that the winner of the next election will be the NDP candidate. There is almost nothing I or any of you reading this can do to change this outcome. If anyone would like to take my bet, email me: Christopher.Kalitin@gmail.com

There are countless ridings just like this one. If you are not in a swing riding your vote doesn't matter. The same goes for states as well.

In the last general election in Canada, there were 17 million votes cast. 62.2% voter turnout. Rejected ballots have been increasing in the last 3 elections in my riding. There's hope!

When hearing this 17M number you may come to the conclusion that 17 million people controlled the result of the election. This is not the case. As I laid out above, only swing ridings matter. California's gonna vote blue, Texas is gonna vote red.

What is the real number of voters that have a disproportionate impact on the election? [According to this CBC article](#) there are 60 swing ridings out 388. 15%. $17M \times 0.15 = 2.55M$.

If you live in a swing riding, take your vote seriously. If not, have fun with it!

In my mind, there are only two valid reasons to vote if you don't live in a swing riding/state.

First, posterity. You can prove your previous thoughts through your voting history or allow random teenagers to analyse the data years later. Statistics is a great reason to vote.

Second, practice. If you take voting seriously you may get better at it. Sadly the vast majority of people don't do rigorous research before voting - this goes for every side of the political spectrum, liberals who talk about "research" while not changing their thoughts are not free of blame. I will never again speak of the left and right in such an unacademic way. Tim Urban speaks in a very academic way about such problems in his book. Read it.

I see the second reason as less valid than the first. I have only seen one person ever talk about voting the way people should discuss it, Tim Urban. Read his book!

I've covered people who have valid reasons to vote. Now, for the majority of you reading this.

DON'T VOTE!

By voting you are supporting representative democracy. Fuck representative democracy. It's horribly underoptimized. If we decrease voter turnout enough, something must happen to overthrow representative democracy and replace it with something better!

Centralizing power appears to have often been a bad thing throughout history. Representative democracy centralizes power with politicians. Better than aristocracies, but still not ideal. "Capitalism is the worst economic system, except for all the others."

I've come to a conclusion given these two insights: (i) your vote doesn't matter and (ii) supporting representative democracy is bad. My conclusion is you shouldn't vote, or at the very least you

should waste your vote.

For voters in Canada, there is an obvious option: Vote for the Green Party!

The Green Party will never win! They get under 5% of the vote! Might as well vote for them for fun! I support the turtles!

Or even better: Vote for Quebec to succeed! Give it back to France!

Humor is the only reason to vote!

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Geohot made a blog too. <https://caseyhandmer.wordpress.com/2023/08/25/you-should-be-working-on-hardware/>> You should be working on hardware



You Will Get 80 Trillion Dollars If You Read This Closely

Oct 11, 2023 • Christopher Kalitin

It's true that an author will do just about anything to keep your attention, but I am serious about the title of this post.

You must apply the Law of Accelerating Returns to your investment philosophy.

If you bought Tesla stock 10 years ago and held you'd be up 21x

If you bought Apple stock 10 years ago and held you'd be up 9x

If you bought Amazon stock 10 years ago and held you'd be up 7x

With this data is it obvious that predicting the next companies to 10x is the best investment strategy. 10% per year in the S&P 500 is fine, 2.6x over 10 years. However, a 25% CAGR with companies that 10x every decade will make you a billionaire.

Now the question has been reframed.

It is no longer: "How do I invest." This is obviously a question for dumb people.

Now the question is: "Which industries will undergo exponential growth over the next 10+ years and which companies will be the winners in those industries."

It is important to start with industries, not companies. Companies are individual entities so they are difficult to predict individually. Entire industries are much larger and thus easier to predict.

The Law of Accelerating Returns and S-curves can be applied to any segment as a method of understanding if that segment will undergo exponential growth.

The only method I've found for predicting which companies will be the winners in a segment is to extrapolate the future progress of current companies. I have made models of Tesla, SpaceX, RocketLab, and NVIDIA. As opposed to industries, these models require much more thought and effort. It is much more difficult to predict the future of a company than the future of an industry, there is a reason Kurzweil predicted industries and not companies.

I am making many predictions now so that in 10 years I will understand if I was correct or not.

That is the purpose of this post.

These are my predictions for the future:

1. EV adoption will follow an S-curve and will be greater than 80% of new car sales by 2030.
2. More than 50% of total kilometres driven will be autonomous by 2033.
3. The growth of renewable energy will follow an S-curve.
4. In 2050, solar will be the largest source of energy on Earth. Barring any fusion breakthroughs.
5. Space Applications (eg. Starlink) will grow exponentially long into the future.
6. AI Robot's takeover of labour will follow an S-curve. This will be the largest economic paradigm shift in human history.

A note on fusion: If there is a fusion breakthrough that allows for cheaper energy generation than future solar, its adoption will follow an S-Curve. Currently the S-curves of renewable energy are much clearer than that of fusion, as fusion is an R&D project. In the future, it may make sense to invest more in fusion but currently it is high risk and difficult to invest in.

With the predictions I made above, I can now make predictions about the future of industries and companies.

1. There will be a paradigm shift in the automotive industry away from personal ownership of ICE vehicles to Autonomous Robotaxi EVs.
2. The energy industry will be dominated by solar and wind.
3. Space Applications will grow exponentially.
4. The use cases of AI will grow exponentially.

Which companies are poised to be the winners in these industries?

1. Tesla - Leader in EVs, Autonomous Driving, Solar Energy Generation, and Energy Storage
2. SpaceX - Leader in Space Launch and Space Applications
3. Rocket Lab - Second Place in Space Launch and Space Applications Hardware
4. NVIDIA - Leader in AI Training Hardware and Software, although hopefully not for long

You don't need to invest in the industry leader. If you want to be safe, go ahead and buy to S&P 500 too.

To illustrate this point, Rocket Lab is starting from a much lower base than SpaceX. \$2B vs \$150B market caps. Easier to compound at a lower base. I'd bet that Rocket Lab's launch business will compound more than SpaceX's in the next 10 years. 4x vs. 7x by 2031 in my Models.

Comma AI is worth ~\$100M, Tesla is worth ~\$800B. Comma will hopefully never "sell out to the bankers" so good luck investing in them.

Ease of investment is also a concern. Rocket Lab and Tesla are public.

Short-term investing is for idiots, obviously.

Short-term investing is predicting the stock market.

Long-term investing is predicting the company and the segment.

It is possible to successfully invest short term. But it is much more difficult and less interesting. Do you really want to worry about what the FED will do to interest rates next month? I'd rather model the future of humanity.

To further illustrate this, consider the CAGR/time ratio. What is the point of day trading 10hr/day when you can get similar returns in the S&P 500 for 1s/day.

The economy is growing exponentially, this is what allows for seemingly impossible predictions.

In 1980, the company with the highest profit was Exxon Mobil with a profit of 4.2 billion dollars.

In 2000, it was General Motors with a profit of 6 billion dollars.

In 2022, it was Saudi Aramco at 300 billion dollars. Apple in second place with \$122B.

In 2000, Microsoft was the most valuable company at ~400 billion dollars.

Now, Apple is worth 2.8 Trillion dollars.

This is why you will get 80 Trillion dollars. Extrapolate these exponential trends into the future.

If the investment philosophy laid out above is correct, I will be a billionaire.

One million is only 3 10x's away from one billion. This will take 3 decades from the point where I have one million dollars to become a billionaire. That is a long time, but it is achievable.

you - pronoun

Used to refer to the person or **people** that the speaker is addressing.

Kurzweil began the chapter 'The Singularity as Economic Imperative' in The Singularity is Near the same way I began this post. "You will get 80 Trillion dollars just by reading this section and understanding what it says"

You collectively will all get 80+ trillion dollars if you understand this post. Although, depending on how far you look, this number could be orders of magnitude higher.



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Geohot made a blog too. <https://caseyhandmer.wordpress.com/2023/08/25/you-should-be-working-on-hardware/>>You should be working on hardware

