

Why We Are All Tech Investors Now

**Speaker Key:**

- DP David Pett
- KM Kevin McCreadie
- AK Auritro Kundu

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00:00:06	DP	From the rise of social media and ecommerce to the promise of new innovations such as artificial intelligence and robotic surgery, there's no denying the outsized impact that technology companies now play in shaping the global economy. On this episode of the podcast, Kevin McCreadie, AGF's CEO and Chief Investment Officer, welcomes AGF analyst, Auritro Kundu, to discuss the ins and outs of investing in the tech sector and the potential implications that advances in technology have on firms across all industries. I'm your host, David Pett. Let's get into it.
00:00:41		Thanks for being here, guys. I don't want to give anybody's age away but let me ask a first question because we're going to talk about technology today. What was the coolest thing from a tech standpoint for you guys, growing up?
	AK	I grew up I guess and my first recollection was the early 90s, I guess. I had the original NES. So I was a big gamer growing up. I'm a big sports guy so I remember playing Tecmo football, Bo Jackson, a lot. And now times have changed. If that was today, I'd probably be getting paid for it. So we've come a long way.
00:01:06	DP	Kevin?
	KM	I think it was power windows in my father's car, was the first tech advantage. But the first one that left a real impression on me was when I was an... Now I'm dating myself – when I was an undergrad and the first ATM came on campus. Because if you didn't get to the bank before three o'clock before the ATM world on a Friday, man, you had no beer money for the weekend. You were borrowing from people and stuff. So those were the two that I think of as early kid and then college.

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Obviously since then, the world has really changed.

00:01:33 DP Yes. So for me, it was the converter box with the... The brown converter box that allowed me not to have to go up to the TV and actually turn the dial. So that probably dates me a little bit too. And obviously today is much different. Technology is everywhere.

AK It's pretty interesting. Right now, I think you're at the inflection point of many great technologies and stuff that's going to be enabled by tech. Say, this is comparable to the industrial revolution. There's just so many industries that are going to be impacted in the next decade. So you've got AI machine learning and deep learning.

00:02:02 We were just talking about streaming, how everything is Disney and Netflix and the Spotifys of the world. So it's an interesting time.

KM Yes. I guess the thing for me is, when I look back, it's always after the fact you say, I never saw it – right – coming. And now we're here and I'm saying, I don't know what more could come, right. I always get caught in this. But without some of the enabling things, like without 4G in the last decade, you couldn't have had streaming possibly. You wouldn't have had Spotify. You wouldn't have had some of the things that today are mainstream for us all. You wouldn't have had Uber maybe because of the application.

00:02:33 You would've needed that highway, the super highway mobilely to do that. So when I sit here and say where we are, it's hard for me to close my eyes and say what more can we have, right. And to your point though, it's probably we'll sit here ten years from now and it'll blow us away, what we don't have and will have.

AK That's what I love actually. I think every big innovation platform leads to the next and you get those hints. So we talked about this. You had... The mainframe era led to the desktop era which led to the internet era. And you see trillions and trillions of Dollars of market cap in those companies. And that led to the mobile era.

00:03:02 And so all these big innovation platforms have the same patterns where you have big, massive cost curve declines, you have cross-sector ramifications, and then that leads you to

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	even more innovation.
DP	So over the past decade, we've really seen technology become a major disruptor in terms of the economy and markets. What stands out to you, Kevin, when we look back at the past ten years?
KM	So some of these platforms, if you will, things like Amazon – Amazon came public in the 90s, right.
00:03:29	But in my mind, in the last decade, it's disruptive power was unleashed because of the ability to do it mobilely, whether it be... Not really Amazon but Target, Walmart, the power of retail being really juiced and pushed by the internet and the ubiquity of the internet, mobile, other things. So while maybe the model of an Amazon maybe disrupted books in the 90s and the early part of the 00s, but I think the last decade has changed it into really disrupting retail generally now.
00:03:59	And so that's something I think about, enabled by a technology, that changed and disrupted an entire industry. I look at the taxi or the limousine industry and say, maybe in 09, would Uber be what it is today? No one would've said... No one would've known what Uber was in 09, right. But in this decade, it's transformed how people think about getting from point to point in a city, even food delivery, right. So I think the enabling part of a model – the model is always there, delivery or taxis – but the ability to use technology to order it and get it and track it, right, is the disruptive factor to the limo and taxi, right.
00:04:33	AK And just actually to that, one of the real things that helped Amazon really take off was the idea of this public cloud that they coined, Amazon Web Services, AWS. And what they did was they basically had all this compute storage and networking power that they decided they could start renting that out to other companies. So it gave... It birthed all these new start-ups and other companies who now can put their workloads onto AWS and then save their money to do other core competencies to their business. And so that was one of the big inflections this decade, this idea of the public cloud that Amazon started. So that's huge.
00:05:03	DP And so you get a lot of new technology companies coming to the fore and becoming major forces in terms of their clout on equity markets. Some technologies though that we thought

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were going to emerge over the past decade don't quite get there.

KM Yes, we were going to print everything, right, back then when 3D printing came out. And we were going to print – you name it, right. And I think I remember the valuations on some of those names, when they became public they went through the roof, right.

00:05:31 But we're sitting here probably almost a decade later from that, and while it's had inroads, it hasn't made massive changes. The other big one I think about – and I can remember it, it was I think 2013 – was at the Consumer Electronics Show when VR, virtual reality, first became the thing. And I remember the big masks that people had to wear, the headsets and stuff. And I think we stood here and that's maybe one that when you look at the decade in front of us, does that finally get someplace? Similar to 3D printing. Does that finally...? Is this the decade of that?

00:06:01 AK So that's pretty interesting because I think what you saw especially with 3D printing and VR/AR is a lot of hype, right, in 2013/14. But sometimes these big technologies take decades to gain traction, and perhaps during that installation and prototyping phase. And so, Kevin, I'll throw this back to you, but you remember in 2000, a fibre optic company was trading at insane valuations and what happened was a lot of these companies ended up going bankrupt. Think of your Nortel and JDS Uniphases of the world, and they were laying fibre down for \$2,000 per mile. And effectively, when they went bankrupt, you start doing this for pennies on the mile. And what came out of that was public investors lost money but the third world got connected to the internet for essentially free.

00:06:35 And that's why you see the rise of the internet. So I'm hesitant to write things off. I think there's long phases where the installation happens and then the end use cases arrive.

KM Yes, no, I think but we looked back at fibre optic and said people lost money and companies went bankrupt, but without that dig and without that spend, we wouldn't be where we are in terms of the pace of change that we see today.

DP For sure.

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	KM	Right? So they probably are disruptive technologies at the first phase of them. Not only are they disruptive in a societal sense but they have maybe an economic cost that will only benefit much later.
00:07:05	DP	And so this brings up a good point from an investing standpoint, when we get into this realm of technology. There is a level of speculation that comes to this environment and knowing, okay, the technology seems sound and there's a benefit here but how do you decide whether one technology is going to emerge before another, especially when there are so many innovations going on at the same time?
00:07:29	AK	So the way I look at the world is I want to invest in companies that I believe are on the right side of change. And I heard this great quote where my goal is not to predict the future; it's just to identify the trends first. And so what is technology enabling today? And the biggest example I like to bring up is the success of these small and medium business companies – the Shopifys of the world, the Squares. You couldn't have a website and be up and selling in five minutes ten years ago. The website builders like Shopify let you do this quickly. And then they solved other pain points like shipping, inventory management.
00:07:59		Square, the idea that a mobile device, if you put a dongle on it, all of a sudden you could accept payments and have payroll functionality – that didn't exist. So these big platforms lead you to the next. And the one I like, and Kevin mentioned earlier, was... I know he mentioned AR and VR, but if you think about the future of work, think about all the social inequality nowadays – you have to go work in San Francisco, housing costs are really high – you can't do that. But nowadays with the internet, with better internet connectivity, with better videoconferencing solutions, you can work from anywhere in the world. And that levels the playing field for a lot of companies.
00:08:29		So just really interesting how technology can enable it. And that's how I go about my investing philosophy – find those kinds of opportunities.
	DP	And is that something that maybe was missing when we looked back at the late 1990s and the tech boom and the bust that happened there, where there's this frenzy, multiples go skyrocketing, companies are just adding dotcom to their

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names? And I just wonder if that was something that we really weren't prepared for as investors back then.

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KM

I think every cycle, and certainly with technology as we try to understand the potential, we maybe outsize the valuation for the potential sometimes. I do remember the dotcom era. I remember B2B, business to business, right, Oracle was the enabler. You would create a website for some chemical company and allow other companies to buy things online. It put billions of dollars on these companies because they announced these things. And you had to sit back and say, what has that really done? Is it really transformational or is it just something that is enabling commerce in a different way? But we spent and lost a lot of money because of the hype, right.

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But I think to Auritro's point, if you can find the things that changes the paradigm – we made, with Shopify and Square, everybody a potential retailer, right. You can be a retailer from your home. And so I think you have to look at everything a little differently. But there'll always be speculation, probably more so in technology because of this inability to size it. What is the opportunity, right? It's different than most other things, right.

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I can look at a drug company out there and say, okay, this drug is going to cure X disease; we know how many people died of that disease or have that disease. We can centre on therefore how many target my population is and it's this math you can do – who are the competitors, etc. When things emerge on the technology front, to wrap your mind about how big or small is tougher.

DP

Do you see any comparisons to what we're seeing today to what happened in the late 90s, from a valuation standpoint or a multiples standpoint?

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AK

Not yet. I think if you slice up the market and you look at some of the large cap tech companies, these are companies that have pretty clean balance sheets, lots of free cash flows and trade at reasonable multiples, right. And then if you dissect... De-sector further, you have semiconductor companies who are growing rapidly. They trade on an E, on a multiple, EPS, which we don't have much visibility but it's not unreasonable. I think if anything where maybe there is some euphoria is in the software space where you are getting some names that are trading at 20, 25 times sales. But I'd argue that a lot of these companies can grow into their valuation.

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00:10:57 Not all of them because some of them will run into competition from your Amazon, Google, Microsoft who are trying to compete on the cloud. But a lot of them have this massive runway. And why is that? Because companies are trying to gain efficiencies and they're investing heavily in software. If you look at software as a percent of US GDP, it continues to grow. Now, what has happened is you've gone from this monolithic world where everything was on premise and you were tied just to Oracle, to now you're going to this cloud world where you can have best of breed software. What does that mean? It means now you can have potentially much more users, people that were in your office and are now working mobile, abroad, everywhere else, right.

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00:11:29 And so you've gone from millions of users to billions. And that's why these software companies could really grow into these valuations.

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KM Yes, I think valuation is always harder in tech, right. Again, working the company and the opportunity into that multiple has always been the challenge, right, and how big the opportunity is going to be. But people always ask me, is this the same bubble that we're seeing or is it a bubble and does it look like the late 90s? And I would argue that the market has actually shown some discipline around it. If you go back to late 90s business models, these dotcom things really weren't business models – they were acronyms and initials on the back of a name and people put multiples on them, right.

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00:12:03 If you look at it today, everything that's come public, the problem has been in the last rounds when they were private companies being funded at extreme valuations. The public markets, as they have come public, have shown much more discipline. You haven't seen the froth in the IPO market. There's a couple of names that have really done pretty well but most of them still, even with the run, have come back to either maybe where they came out at or even below that. And so...

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00:12:28 And in some cases we, as an industry, have rejected some of these things and said, you know, it's really not a tech company. Maybe it really is a real estate company. And we've seen those before. And so I think there's a very different feel for valuations and opportunity in tech today than in the late 90s and I think people just say, gee, it looks like the same thing. I think it's a little different.

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AK And I saw stats the other day that in I think 99, there were 256 IPOs that year that were up an average of 68% that probably didn't even have that much revenue, right. So there is a lot more discipline and people are vetting a lot of these names more.

00:12:58 DP And so another difference between the two areas is just the leadership in terms of the sector itself. The names that were leading the pack 20 years ago are not the names today. Will we be seeing new leaders emerge over the next decade?

KM Yes, you look at the last... And I'll take two favourites of mine. Microsoft. Microsoft was the darling of the 90s. It took it almost, not two decades but a good 15 years to get back to that valuation, right. But in the course of that time, it changed as a company. It's not the same thing.

00:13:32 Apple was a dead company essentially and re-emerged as something today that is a trillion Dollar company. Both of those names – trillion Dollar market caps, right. So you look at them – they've survived; but along the way, they were leaders that we'd put a pin in in the 90s and said these were going to be the guys. They're gone. And so that is the thing about technology, right. The ability to continue to innovate and improve is going to define the winners versus those. You can't stay the same because you then become irrelevant. Very different. And it's hard to... If you look at the Microsoft example, I'm not sure a lot of companies can do that.

00:14:04 AK Yes, I agree with Kevin. It's hard to stay on top, right. And we were going through this exercise, the history of the companies and how long GM was the largest market cap company, how long GE was and how long IBM was. And we're out of those companies now. So I loved this exercise. One of the things we were talking about, like the sports analogy, is what innings are you in the game? Right. So maybe Apple is in the eighth inning, Microsoft is in the eighth inning, Google and Facebook are on the seventh inning.

00:14:29 And part of my role is to try to identify those companies that are in the second or third innings that can have a 20-year timeframe of growth and be in the seventh and eighth inning and be in the top ten market cap in the world.

DP And at the very least, you're analysing those companies that are in the eighth inning very differently than ones in the



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		second inning in terms of what they could provide you from an investment standpoint, whether it's a little bit more income versus growth, right.
	KM	Yes. And I think that's exactly right – how do you value that opportunity for the thing in the second inning?
00:14:59		Because if you just look at it, many of them are on a multiple, as we said earlier, whether it be of cash flow or sales, right, not even E or earnings, that look outrageous to some people – if you can't size that opportunity to get it into the eighth inning. And as they get from the second to the eighth, the multiples grow with the company and they look more rational. You look at Apple today, it doesn't look like a company that is... Well, we can argue whether its valuation is appropriate or whatever but it doesn't have that outsize because it's matured into what it is.
00:15:25	DP	How much is politics and government intervention or regulation playing in terms of the tech sector and how you evaluate tech companies in this environment?
	KM	Yes, I think we're going to be in for a bit of noise in terms of you've seen it in the political landscape, certainly in the US and you've seen it in Europe, with people worrying about privacy issues. You're seeing it with some of the political candidates in the US talking about break up tech, too big. It's not just privacy – it's even Amazon, it's disruption. So I think there's going to be noise around the sector. Whether it weighs on multiples yet is hard to tell.
00:15:58		I think a lot we'll see over the next couple of years, depending upon who sits in different parts of the US government, who sits in the European government. But I do think we're going to take a look at tech differently from a regulatory standpoint than we ever have before.
	AK	I definitely agree with that. And one thing I'd like to add is just in the history of tech, I guess you could say, the virtue of technology is not guaranteed, right. The rise of combustion engines, there were more accidents. So responsibility for this stuff and who is going to regulate it. There's all this fake news out there.
00:16:26		With the advent of AI, there's deep fakes, companies that have acquired all this facial recognition information and who are they going to sell that to? These are all topics that need to

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be tackled and companies need to work together to do this and have some core values. So I think it's still early days on that stuff. But yes, these are things that the companies need to come and think about.

DP And as an analyst or an investor in some of these companies, how do you account for that type of risk?

00:16:51 KM The classical risk for this sector has always been anti-trust, right, where you just got too big. And because your thing was so good, everyone wanted to use it, right, and all of a sudden it got this backlash and pushback. You saw Microsoft over the years; you've seen Google over the years now with some of the ad regulation issues and stuff. I think it's going to shift. We haven't seen it in the multiples yet on these names. But when Microsoft went under it, it clearly had an impact on it. But the dialogue is going to change from about anti-trust on these things to more broader issues around privacy, issues around virtue, as Auritro says, right.

00:17:24 And I think that's something that we'll have to see how that impacts multiples [overtalking].

AK Yes. Just to add to that, I think there's all this talk about breaking up these companies and that's definitely not the solution. I think that would actually make arguably the companies more valuable. But you also have to think of how this plays out globally. And if you're starting to break apart some of these US companies, then these Chinese companies become even stronger, so competitively, you're disadvantaged as well. So this is a lot of puts and takes. It's not that easy to find a solution to breaking these companies up.

00:17:49 DP When we look at the next decade, what are the technologies or innovations that you think will really emerge and provide some really great growth opportunities for investors?

AK And I think what that's going to really lead to is autonomous driving. That's going to be something that's very topical. Several companies are trying to tackle and it's just a huge opportunity. I think in terms of one of the big things I think investors are seeing now is this idea of sustainability. And it's actually real and it's here. And I think investors, people, everybody is starting to care about it.

00:18:21 And so I think something like electric vehicles and the technology being applied there is going to be huge. It's going

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to be a huge opportunity. One other thing is healthcare. I think healthcare is going to be a big beneficiary of all these technology advancements. Just down at the JPM conference last week, Illumina was talking about their next platform and how they're using fibre optics to get the cost of sequencing a genome down to \$100. Steve Jobs sequenced a genome for \$100,000 in 2011. So this is just a huge opportunity for you to find potential diseases, your cancers, right.

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And so there's just so many big opportunities, I think, in the next decade.

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KM

I love, though, it's all enabled by something else, like that fibre optic spend in 1999 that sat dark for all those years, right. And I think the second piece which will enable is 5G, right. And the analogy I think you and I have talked about in the past was 3G was a two-lane highway, 4G was maybe an eight-lane highway, and 5G will look like a 16-lane highway in terms of the ability to put things through it.

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And so think about what that does for processing of data, whether it be in mammograms, x-rays, synthesising thousands and thousands of records in one shot to be able to give you an answer. And so I think the enablers will be a story as well in the next decade. The same thing as that 4G enabled Spotify, iMessage and other things, what 5G will enable to autonomous driving, AI are going to be really, I think, mind-blowing.

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And this really transcends the tech sector as we know it. This envelops all of the other sectors out there. So consumer discretionary sector, the healthcare sector.

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Tech is everywhere. We feel investors are tech investors when it comes down to it nowadays.

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AK

All these end markets are going to be the big beneficiary of this, right. And so what have we seen the last decade, right? We've seen semiconductor costs come down drastically, right. You were talking about \$8 per gigabyte of DRAM memory, which you see on your phones, down to 40 cents. You've seen, Kevin's point, internet connectivity get better. And so all these companies are going to be leveraging these changes for the next decade. Think consumer healthcare. Car companies are going to be the beneficiary.

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00:20:21      KM      And some of the technology is going to be preventative, right. There are going to be things that come along that are going to be disruptive in a negative sense too. Quantum computing is going to be a positive beneficiary, the ability to solve equations at such a high rate of speed, right, when quantum computing really gets here. The danger to that is it has cyber implications. How fast can you solve a security code using a computer is going to be a dangerous thing. And so I think you're going to see spends in the technology area that are going to be different because, as new technologies emerge, we have to think about the other side of it, right. What are the negative implications?

00:20:54           And think of the negative societal implications though of autonomous driving. Think about the truck driving industry, the disruption. I think truck drivers, if I'm not mistaken, of the 50 states is the largest occupation in 30-something of them in the US. Not every one of them are going to be put out of the jobs that they're in today but the industry is going to change and we're going to have to figure out what to do with that middle-class worker. So the implications for the next decade, I think, are very different than the last.

DP      If you look out over the next decade, is there one event or a theme or a trend that you see impacting technology more than others?

00:21:24      AK      So I'm going to go with the E in ESG this time. And I think we just had all these sound bites from Davos, the Economic Forum, and I think five of the top seven themes were related to the environment. Just last week, Microsoft talked about going carbon negative, a pledge by 2030. All these other big companies have talked about going carbon neutral by 2040. I think this generation really sees the impacts, especially with social media really broadcasting things faster, right.

00:21:50           These fires in Australia. These fires in California. Water levels rising. Plastic being thrown in the oceans and whales dying, ingesting this stuff. I think this generation, it's really, really starting to hit home. And so that is going to be a huge opportunity if you think about something like electric vehicles, with battery costs coming down, the ecosystem really developing fast – that is an opportunity that I think will be huge, longer term. Other impacts, and I don't want to get into this, but is plant-based meat. And if you think about meat consumption, AT Kearney put out a stat that 90% of meat

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consumption in 2030 will go down to about 40% over the next decade after that, right.

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So people are starting to think about agriculture. 40% of our ag goes to poultry, pigs, all this stuff, and then cows burping methane is 23x worse than carbon dioxide. So the world is starting to think about this. And I think technology will be the enabler to tackle these issues.

DP

So that feels like a pretty good place for us to end our discussion today. Auritro, thanks for being here, and Kevin. Until next time, when Judy Goldring, AGF's President and Head of Global Distribution, joins the podcast to talk about corporate governance and the growing importance being placed on it by investors.

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