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Has COVID Opened the Door for Driverless Cars?

Featuring: ***Tasha Keeney****, Ark Invest analyst*

Adam Bass (00:03):

This is MSCI Perspectives, your source for weekly research insights as investors respond to the COVID-19 pandemic. I'm your host Adam Bass and today is October 1st, 2020. This week, the technology behind 3D printing, drones and driverless cars has been around a while, at least relatively speaking. Why have they recaptured our imagination this year? And what could that mean for investors? To find out, we spoke with Tasha Keeney, analyst at ARK Invest. Tasha, thank you so much for being on the program.

Tasha Keeney (00:39):

Thanks for having me.

Adam Bass (00:40):

Now, COVID has affected everyone in every walk of life, in every business in different ways. We've all had to adjust and form some new habits, maybe even ones we wouldn't have thought of pre-COVID, anything like that going on with you?

Tasha Keeney (00:58):

Yeah. Personally, since gyms have closed down, we had this shutdown period in New York, I actually recently bought an Apple Watch for the first time. And so, I'm using it at home for my workouts. And it's kind of funny. I've heard stories about this before, but I have become so obsessed with closing my rings every day. And potentially you could see one day maybe insurers even subsidizing the watch. I get all the benefits, I'm closing my rings at home, but maybe I also get cheaper insurance rates for doing so.

Adam Bass (01:30):

Well absolutely. And if we do start moving in that direction, we will have to have you back to talk about that. But today we're here to talk about autonomous tech. Starting with the basics,

just tell us what does that mean? And why has it become a theme within what's known as thematic investing?

Tasha Keeney (01:52):

Yeah, the past five to 10 years, we've seen a lot of improvements in machine learning, specifically deep learning and these tools have become so powerful that in some cases they're beating human performance.

Adam Bass (02:05):

Okay. Deep learning. Let's define that now, if we could.

Tasha Keeney (02:09):

Yes. Deep learning is a type of machine learning. In the old software world, it involved a lot of human input. A lot of basically an army of human programmers telling the system exactly what they wanted it to do. With the deep learning, the system actually teaches itself. It's not so much a human telling the system precisely I want you to do this. It's actually the computer figuring it out and getting to the right answer on its own. Deep learning is sort of used across a lot of industries but one of the most impactful areas that we think this could happen is in the auto industry. Basically creating a machine that allows the car to drive itself. And when you do that, you can lower the cost of personal mobility dramatically. It'll cost less than it does to hop in your personal car to go than an autonomous taxi and certainly much less than a taxi costs today.

Tasha Keeney (03:08):

Basically it's going to give a lot of people access to really cheap travel. That's going to be important here in the US but particularly important in places like China, where the personal car ownership levels are lower and not as many people have access to that cheap point to point mobility, it's going to give them that access so it could be extremely disruptive really across the world.

Adam Bass (03:28):

Fascinating. And as with a lot of this technology, seeming to appear out of nowhere and then it's everywhere all over the world, but sometimes the technology is actually ready before the world is ready for it. Can you talk about a few other examples?

Tasha Keeney (03:48):

Yeah. A good example of that is 3D printing. 3D printing was this area of technology that was invented a while ago. It's been around since the eighties and investors got really excited about it because there's this idea that there'd be a 3D printer in everyone's house and that never happened and it probably never will. 3D printing is basically a form of additive manufacturing. You're building a part from the ground up versus subtractive, where you have a block of material and you shave away at it to make your part. When you build something from the ground up, you can design something that's very complex, much more cheaply than you could with traditional manufacturing. It's really good for healthcare because you can customize parts and it's also very good for short run manufacturing because you don't need a tool like you would say in injection molding to then produce a whole bunch of parts. You can just print one part.

Tasha Keeney (04:45):

In the pandemic, when we needed things like a replacement ventilator parts, for instance, to make those replacement parts with traditional manufacturing, it might take weeks, but we really didn't have that time. We saw hospitals in Italy using 3D printers to print those replacement parts on demand, really just doing it in a matter of hours or days, depending on the part and then using them immediately. That's sort of given the space a lot of attention now. Now after the pandemic, we think it could be really good for reorganizing supply chains. Anytime you want to bring something close to home. Reduce your reliance on a supplier abroad and really shorten your manufacturing footprint. That's another area where 3D printing really shines.

Adam Bass (05:29):

And supply chains, definitely an issue that's come up across industries throughout the pandemic.

Tasha Keeney (05:35):

Exactly, exactly. 3D printing can help us bring manufacturing closer to home. It can often reduce complexity in the supply chain. You can print a piece that used to be comprised of multiple parts into a single part. In some cases you're getting reductions from 200 parts to one. Really dramatic.

Adam Bass (05:54):

And you mentioned that the 3D printing stocks undervalued. Were they almost trading as value stocks? Would you identify it in that way?

Tasha Keeney (06:03):

Yes. To us, that really seems out of place because we think this is clearly a growth industry. We actually think 3D printing has penetrated its end market by less than 1% today. It's still really early days. It's clearly a growth area. We think it could go from 10 to $15 billion today to over a 100 billion in the next five years in terms of the market size.

Adam Bass (06:28):

Absolutely exciting from an investment standpoint. Unfortunately I will have to, I guess, tell my kids that we will not be able to print out any toy that they want in the near future at all.

Tasha Keeney (06:39):

Yeah. Maybe not at home. Yeah. Maybe in a local center or something.

Adam Bass (06:45):

Okay. Okay. Not terrible news to me, but turning back to self driving cars, you mentioned the potential, especially in places like China, for example. Where does this technology stand? How close are we to seeing self driving cars on the road as a common site?

Tasha Keeney (07:06):

In short the technology, when we think about a fully autonomous car, I think that we're a lot closer to that than most expect. We actually think this could happen in the next five years. When you think of autonomous cars, we often hear, okay, but it's going to take forever for the install base of vehicles to switch over to autonomous. Well maybe, but for the miles on US roads to switch over to autonomous miles, the majority of miles, basically it could be, or more than 50% could be autonomous within the next 10 years. And it's because we think it's going to dominate urban transport because going to be so cheap and that's where the most miles in the US happen today. Again, a really dramatic impact that's just happening in the next, say two to five years.

Adam Bass (07:50):

What are some other areas where this technology can be put to use outside of autonomous taxis for example?

Tasha Keeney (07:58):

Yeah. Well, you can have autonomous vehicles of all types. That could be a taxi. It could be a robot that rolls on the sidewalk, but it could also be used in flight. We're seeing a lot of autonomous drone programs popping up. Actually Amazon, very exciting, just got this approval. It's called the Part 135 license. Basically it means in the US that they have certification to operate as a drone airline. They plan to deliver packages to customers. We think they can do that for just 25 cents per package. And it can totally change the way that we shop and we get our things today.

Adam Bass (08:38):

We've been hearing about drone technology for a while. It sounds like perhaps was it regulatory issues that were keeping it from happening?

Tasha Keeney (08:48):

Autonomous flight, it's been a lot more heavily regulated and actually particularly in the US. Drones, it's really just a few, or let's say handfuls of projects that have been approved by the FAA in the past five years. It's really been held back, but I think that's changing now. We've seen not just in the US but abroad, a lot of use of drones during the pandemic because they're contactless. Just in the past, say 12 months in the US, we've seen Amazon get this approval.

We've also seen UPS get a similar approval. Google's project Wing got a slightly lesser certification. It's a little bit more limited, but we're seeing more of sort of these projects going through. That's a really good sign because it means that technology is actually able to get that final development step before you and I are able to get package delivery by drone.

Adam Bass (09:39):

Before I let you go, mainly out of my own curiosity, I just want to ask, given your research, your experience with all of these advances in autonomous tech and other types of technology, if you had to predict, what's one thing you think is possible we'll see, say I don't know, five or 10 years from now that even five years ago, you would have thought impossible?

Tasha Keeney (10:02):

I think that within the next five years, you could picture you're somewhere in the US able to get in an autonomous taxi where you sit in the backseat, you don't touch the wheel at all. Maybe watch Netflix, maybe you binge watch your show and you could sort of picture these systems working in concert. Maybe later that day you get a drone delivery, but the drone's not the only thing to touch your package that day, actually, it was also delivered on an autonomous truck and then the drone took it the last mile. I think it could happen certainly sooner than you think.

Adam Bass (10:38):

That's all for this week. Thanks to Tasha and to all of you for joining us. Be sure to tune in next week, when we invite the Hitendra Varsani back to the program. We'll take a look at how equity and fixed income factors have fared during times of higher inflation. Remember, it takes just a moment to subscribe to the podcast, leave a comment or share with a friend. Until next week, I'm your host, Adam Bass and this is MSCI Perspectives. Stay safe, everyone.

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