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Ford Motor Co. (F)

Jefferies Disrupt Summit - Panel

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Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

Dave Neiswander
Chief Executive Officer, World Bicycle Relief

MANAGEMENT DISCUSSION SECTION

Storm Duncan

Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

All ready. Thank you everybody. Let's get this going. I guess we're ahead of schedule, which is nerve wracking for me, but good for everybody. Maybe we'll just start and get a quick set of introductions. So, I'll start. I'm Storm Duncan with Jefferies. I run a couple of different franchises for Jeffries. I run our Global M&A effort and I run our Global Mobility effort, which we'll talk about a little bit after this section. But it's basically a technology that facilitates the movement of people, packages or food from one place to the other. So we're fortunate enough to have two pre-eminent experts on different ends of the spectrum there. So maybe I'll do some introductions and then we can kick off.

Kenneth E. Washington

Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

Okay, great. Well, good afternoon, everyone. I'm in Ken Washington. I'm the Chief Technology Officer at Ford Motor Company, and I'll talk a lot about what Ford is up to and our thinking around technology and how it's being fluid into our business and how we're using that to help bring better options and solutions to the masses, so.

Dave Neiswander

Chief Executive Officer, World Bicycle Relief

Good afternoon, everyone. Thanks for having us here. My name is Dave Neiswander, I'm the CEO of World Bicycle Relief. So something completely different is thinking about the mobility challenges and solutions at the bottom of the economic pyramid and how bicycles make a difference.

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QUESTION AND ANSWER SECTION

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Excellent. Maybe that's a good opportunity to start off with just some high level definitions that might help people, right? So, actually, I feel like this concept is becoming very mainstream now. Multi-modality is something that Ford was way against – way ahead of the curve on, might have actually cost the CEO his job for being a little bit ahead of the curve on multi-modality. And then, even on the bicycle side of things actually, right? And then, you have obviously the bicycle spectrum in third world countries as well. So, can you guys talk each about how you think about multi-modality?

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Sure. Well, let me start by just kind of framing it. And the frame that I like to use for how you think about multiple modes is that we've had lots of modes of transportation available to us for a long time. And we even – if you line the clock back to before Henry Ford's day, people had really primarily two choices, you could walk or you could ride your horse. And riding the horse was a little less convenient, and – but it took you further. And so the same thing applies today. We've got cars now that are a lot more convenient than using a horse, and horses have become less convenient, of course. And – but we still can walk. And we also now have – we've literally opened up the highways because the automotive system changed the world, it changed society, it created a highway network and created roads, it created an ecosystem around them to support it. And so these other modes of mobility, including bikes and subways and trains, are all ways that we can move and – but each one is at a different point in the convenience and cost curve and in the distance curve. We think it's really important that you understand where it fits into our human-centered need for movement. And that need depends on where you are and what you're trying to achieve, whether you're trying to move a package, whether you're trying to get to work, whether you live in an urban environment or whether you live in a rural setting.

So one of the things that we're very passionate about at Ford is to enable all of those modes to work in a human-centered way to meet your need, depending on your circumstance. And a key component for that, and this kind of goes to the title of our discussion today is, is disruption in technology. Technology has enabled us to connect like we've never been able to connect before. We live in a totally digitally connected society. We've got mobile apps that are on our smartphones that live in our pockets. So we have access to connect to other transportation ecosystems at a moment's notice. But what's missing is ease, the ease of being able to connect smart cars, connected cars to the smart digital ecosystems that we live in and play in.

And so one of our areas of emphasis, something we feel very passionate about is, is to make that easier, to take the friction out, to enable these multiple modes to work together, to allow smart cars to talk to a smart world, to allow cars to talk to microtransit services like our Chariot service that's now launched in multiple cities to allow smart bikes that are now deployed in urban cities and even these new smart scooters to be connected. So they all have to talk a common language for that to be true. So we're working on some innovations that are going to make that possible. Multi-modal is now here because of these interruptions and these disruptions in technologies, like these common language ecosystems that I can talk more about a little bit. So that's how we think about it.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

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And so [ph] I'm just going to kind of port over to you. (04:56) As I think about multi-modality, I think it is an opportunity to do partially what you're saying, which is connect multiple different modes to have tradeoffs between price, convenience and comfort. But at the end of the day, they're also about economic spectrum and classification. So even within the United States where you have bikes, walking as a form of modality, and scooters, that's a form of economic advantage for providing transportation that didn't exist before. So maybe we can port that over into your world, which is surely actually the opposite [indiscernible] (00:05:26) it's the high end of transportation.

Dave Neiswander
Chief Executive Officer, World Bicycle Relief

A

Well, it is amazing. I mean, when you think about the choices that we have here in the developed world and the multi-modality as you're saying. In the developing countries around the world, that simply is not an option. And there's over half a billion people in Sub-Saharan Africa that live in the rural context. That means they're walking as their primary mode of transportation. And when we first got there about 13 years ago into Africa and sort of seeing where some of these challenges were with people accessing healthcare and economic opportunities and some girls getting to school, realized that it was really overlooked in development as far as people not having those options to having that option of walking versus having quality transportation. And, unfortunately, the quality of the bicycles being brought into Africa and being serviced there to the bottom of the economic pyramid were very poor quality. So not only was their main option having to walk, but then they had poor quality transportation options.

We actually started as an offshoot of SRAM Corporation. Some of you who might be cyclists might know what SRAM is. We're based out of Chicago. So the Co-Founder of SRAM, F.K. Day is the Co-Founder of World Bicycle Relief. So our value proposition is really think about how you take that knowledge and that processes at the high end of the cycling industry and applying that to the needs of those at the bottom of the economic pyramid. And that's where we've come up with our supplies.

When we talk about disruptive technology, we're actually disrupting technology in Africa with our bicycles and the technology that's going in there, and actually have top engineers in the cycling industry that are working in our team about drive trains and braking system. So this is sort of interesting when you think about the choices that we have here versus the choices in the developing countries where you're having to walk 10, 15 miles to get to school or get to a clinic or get to a marketplace.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

So, two questions and then this will kind of move up the capability spectrum as we move it over to Ford. What are the gating technology items or the innovative technology items that you're doing that will facilitate that movement, but that also can potentially port in the opposite direction to first world countries to create more efficiencies there? And then, how do you think this is going to impact the economy in these third world countries because I'm sure some of our investors are focused on those areas?

Dave Neiswander
Chief Executive Officer, World Bicycle Relief

A

Sure. Well, we've sent over 420,000 bicycles into the developing world in about 20 countries. And the disrupting technology that we're looking at is multiple gear drivetrains. Right now, we have a single gear with a coaster hub, kickback break. Our bicycle is a very heavy-duty. As we say, it's 50 pounds of love. It's a heavy-duty bicycle. It is not built for the Tour de France, it is not built for speed. It is built to carry heavy loads. And when you have that type of heavy loads on the back with the coaster hub, there's a lot of energy that goes into that. So we're working

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on multiple speed drivetrains that could be with braking systems that are going to sort of breakthrough, and this just simply hasn't been done before.

And so that's going to be a change as far as when you think about a farmer that's taking his milk from his small farm to the dairy cooperative that might be 20 miles away, but he's got some hills, being able to have that reliable transportation is life changing. All of a sudden his income goes up 23%, based upon our studies, because he has reliable transportation. So, again, often overlooked in the developing world, reliable transportation and the appropriate transportation is really something that we highlight as something significant.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Okay. In the more developed economies, as multi-modality has come about, like there's a lot of hype in the press, I guess you would say, around autonomous vehicles, but as you think, maybe take us through a 10-year evolution of technology, what are the gating items today to success for multi-modality, not AV, I mean, autonomous vehicles as a mode in my world.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Yes.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

So if you think about multi-modality over the next 10 years, what are the key gating items technologically that you're working on?

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Well, let me just start by building up what was just said, that there's – there are a lot of technology evolutions and revolutions that are happening that are truly life changing for people, and for years we've been focused on providing for that freedom of movement by bringing technology to the automobile. And what's different today, and if you just kind of project forward for the next 10 years, is there is a new wave of innovations in the digital world that's creating a whole new array of opportunities and options. And those opportunities start – you could start with autonomy, but it's more than just about putting a robot in the car to replace the driver.

We think if you forecast over the next 10 years, you're going to see the autonomous vehicle not only become autonomous but it's going to get deeply connected, it's going to talk to a smarter world, it's going to have this common language that I spoke about. And most importantly, the potential of big data and data and analytics and artificial intelligence is going to transcend the kind of capabilities that are making autonomous vehicles a possibility today. I mean, you've got autonomy and artificial intelligence playing a huge role in 2018 for making autonomous vehicles a possibility by capturing the sort of reasoning that humans do when we drive, and taking in a massive amount of data from camera sensors and LiDAR sensors and radar sensors, and meshing it together and coming up with a way to safely plan an app.

And – but beyond that, over the next several years, you're going to see that kind of artificial intelligence permeate its way through every corner of the mobility ecosystem. So when you think about it, when you get up in the morning and you go approach your car to get into it to take you somewhere, there are a lot of decisions and a lot of data that you process in the process; where you're going to go; what do you need; are you going to buy

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something; when you get there, what are you going to do. And so the vehicle can actually help you with that, as well as keep you safe by scanning and evaluating your environment.

So this notion of bringing intelligence into the vehicle to really know you, to be able to predict and assist you with your human needs, whether that's getting somewhere or connecting to another mode of mobility or moving a package around or just getting to work on time, all of those are possibilities in the future.

One of the things that I think is really, really cool about what's going on in the mobility world is, all of these developments are all kind of happening at the same time. Connectivity technology is really advancing at a pretty significant pace because of other aspects of our digital lives. It's not necessarily driven by the automotive industry, it's driven by the smartphone industry and our smart home connected everywhere kind of mentality. We can leverage that in the mobility world by knowing that everything in your life is going to be connected.

Now, that could – that has a got a great positive sort of light side to it. But there's also a dark side to it, which is that could sound kind of scary if the company that's providing all of this insight and analytics and artificial intelligence is not trusted. And so we think it's very important, as we connect together all of these digitally connected things in our lives including our vehicles and our multiple modes of mobility, that you do it in a way that engenders trust and you do it in a way that engenders safety and security. And so if you do all that, you can unlock a lot of potential upside for humanity. We're really excited about that over the next 5 to 10 years.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

How do you engender that trust in people because of the inherent fear of both robotics, but also the concept of being replaced from a functionality perspective? I mean, autonomous vehicles have already proven to be dramatically safer than humans. But one accident, and everybody gravitates towards that one accident even when it's not the AV's fault a lot of times.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

That's right. And trust and smart mobility is no different than trust in any other part of our lives. You build up trust one action at a time, and having a good intent behind all the things that you do with transparency and inclusion builds up trust. And so, as we enter the autonomous world, that's the reason why we're approaching it to – from the point of view, it's better to be right than to be first. The rush to be first could lead to a lack of trust, and we don't want to create that. We want to ensure that when we bring these autonomous vehicles to the market and we bring other digitally connected mobility solutions to the market, like our Transportation Mobility Cloud, it's going to enable other technology companies that easily connect to our vehicles and it's going to allow us to offer new services and solutions to small businesses and cities. It's going to allow us to connect multiple modes of mobility together.

And we do those things from the point of view – from the human-centered need to be able to trust it. So you have to prototype it smartly, you have to not go faster than you really can in order to learn how people are going to use these and you get a sense of what people are comfortable with and what they're not comfortable with, and you learn from that. That's exactly how we're approaching deploying our autonomous vehicle solution into society, starting with our first deployment in Miami.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

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Okay. This question maybe for both of you, but let me start with you, because it will play up what you just said, and then it will be a slightly different aspect in the universe hereon, but I'm going to move beyond your region as well, if that's all right.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

Right.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group
Q

So, for multi-modality to work, you've already kind of highlighted something that might not have been captured by everybody, which is you need a network, you need a network of the actual modes of transport, they need to be liquid. So if you want a car, it can't be an hour away; you want a bike, it can't be 20 miles away, et cetera, right? And then – so it's a two-sided marketplace. On the other side, you need a network of people. So you're talking about creating this cloud infrastructure which provides more services to the ecosystem. But how does a company – so there's basically two companies out there, right, two types of companies. You have the network companies, right, which I would consider currently Lyft, Uber, Didi, Ola, et cetera.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

Yeah.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group
Q

You could probably throw Google Maps in there. We'll talk about what that is later. And then, you have the other players that are building enabling technologies. How does a company such as a Ford, or if you don't want to talk about Ford, a company that doesn't have the network, build that network and compete with those people?

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

Well – so, in the case of a network, the good news for companies like Ford is that we have lots of choices, and we actually do have a very powerful network and it starts with our dealer network. We often talk about our dealers only through the lens of, these are the – this is the network we use to distribute and sell and service our vehicles. But that network can be leveraged for many other things. In fact, it's pretty obvious to us that having access to local communities with the kind of access that the dealers have is very envied by other network players and other companies. But we also have the ability to partner, to create, to give us access to a network.

So we're leveraging both our existing strong dealer network, as well as the ability to leverage our brand, to be direct about it, to leverage our brand to create partners, to gain access to that network because we come at this disrupting mobility opportunity from a position of strength. It's not just that we're bringing autonomous vehicle technology with artificial intelligence talent to the community. We're bringing that paired with a proven automotive engineering company that knows how to integrate complex engineered devices that are safe, that scale, that adhere to some very important safety requirements from – that are imposed by governments, appropriately so. And we're bringing the combination of that to the masses.

That, together with our dealer network, together with our view that this is a way that drive human progress by offering multi-modal solutions, connectivity to other businesses, we think that's a powerful attractor for network

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companies that would like to partner with us, and we're seeing a lot of that. So we're in the middle of some very promising conversations about how to submit those relationships.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group
Q

I have so many follow-ups, but I want to stick on this theme, then we'll come back to them and push back on you a little bit too if that's all right?

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

That's fine.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group
Q

Okay. So thinking about it specifically to bikes, and I think my view of the biking universe in the United States, a first world, is different than it is in the non-first world countries. So maybe checking it outside of your region as well, the bicycles have had, especially non-pedal assist bicycles, the manual bicycles, have had a lot of challenges around the world both from a network perspective. And what I mean by that is, as you know, an over-funding in China and the competition between – an egotistical competition almost between two players led to an order outcome which actually creates major setbacks for bicycles. But it also called into question, what is the true need for a massive network of bicycles versus a super-efficient network of bicycles. And then the second subcomponent of that is, how does a bicycle company, maybe outside of your region because I think the economic disparity in your region is different than the underlying premise of this question. How does a single mode bicycle company fit in, in a universe where people have the access to provide an end-to-end transportation solution that might include multiple different forms that optimize between price, convenience, and comfort?

Dave Neiswander
Chief Executive Officer, World Bicycle Relief
A

Sure.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group
Q

And time, sorry.

Dave Neiswander
Chief Executive Officer, World Bicycle Relief
A

No. I think to your first point, yeah, there've been a lot of different players that have gone into bicycle sharing across the globe. And seen some successes and some challenges. That's not the area that we work in. My observation would be you have to listen to your customer, you have to say our motto as an organization is that all answers are found in the field. So you better know who your customers are and you'd better be able to meet those needs. The challenges that have been seen as to the quality of the bicycles or the docking stations and the ways that it goes, in our world we look at mobilized communities. We look at not only quality bicycles, but make sure that you have the field mechanics training, make sure you have the supply chain of quality spare parts. So that you're having sustainable impact, and you're having sustainability in mobilized communities. So I think that's – you could put that to the same question, I guess, as far as some of these solutions that have been out there as far as the bike sharing process. Are they really listening to their end user and listening to those customers?

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As it relates to the ability to sort of think through as a bicycle supplier, we have been – it's been interesting for us because when we first started we were just a philanthropic organization. And as we have these higher quality bicycles out into the field, people started knocking on our door, saying, hey I'd like to buy that bicycle for my organization or I'm a farmer and I want to use this bicycle to take milk to the cooperative or my child to school. And sort of scratching our head, my background I must confess I'm a reformed investment banker. So, before I started with the nonprofit I was doing capital raising and F.K. who is with SRAM Corporation is an entrepreneur who sort of came up with the structure of having the social enterprise as 100% owned by them, not for profit. And the 420,000 bicycles that we've done, half of them have been sold and that profit of those sales go back up to fund philanthropic programs.

So what that tells you is that you better have the right value proposition. So it keeps us honest as far as with our customers that we know as more and more individuals at the bottom of the economic pyramid have the desire and the capacity to purchase our bicycles. Even though our bicycle might be two or three times more expensive than the cheap what we affectionately call bicycle shaped objects or BSOs that are found in the marketplace, even those at the bottom of the economic pyramid, they have to make their dollar go further. And so having that value proposition of high quality at an affordable price is really important in that strata of the demographics and the areas that we're working.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

And so just for my benefit because I'm not aware. Are the purchases that you're doing, shared purchases so they're shared bicycles, or are they purchased by one person who then manages the sharing themselves?

Dave Neiswander
Chief Executive Officer, World Bicycle Relief

A

For the most part that they are individual purchases or they might be purchases by UNICEF or other large development organizations that are implementing healthcare, agriculture, economic programs, education programs. We are exploring and looking at bike sharing programs even in the rural context. And so having bike shops that are owned and managed by women to be able to lease bicycles or rent bicycles by the hour to help them.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Okay, helpful, maybe a little pushback now on a couple of different points. I think everybody has the platitude of because there's so many lives involved who are going to move safely as opposed to move quickly, right. But I think the history of technology is the exact opposite of that, right. So Lyft as an example invented ride sharing. It hadn't existed prior to them. But Uber became bigger because they're like we're not going to follow the rules, we're going to put this out there, we'll get into trouble, but we'll be $50 billion by the time we get into trouble and then we can buy our way out of that trouble, right. So they made the same mistake, however, in their autonomous vehicle program, which is we'll move faster than others, we'll take more risks than others and they had a consequence for that. So the first question I'll ask for you is how do you balance that trade off of not being for – well, I guess, let me ask a higher level question. Do you believe there are actual network effects in the autonomous vehicle spectrum which will lead to the sort of reduction of the number OEMs in the future? And then, if so, then it'll lead to the following questions which are what's the benefit and cost to not being one of the top two or three?

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Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Well, so there's clearly going to be a network effect with autonomous vehicles and it's not just autonomous vehicles, again, I just want to really iterate and emphasize this point. It's not just because they're autonomous, it's because they're autonomous, connected, intelligent and part of an ecosystem, part of a system solution. We've used the term smart vehicles in a smart world. And we really like that term because when you're trying to go somewhere or trying to get a package, or trying to participate in some mobile action, you don't really care if the car is autonomous or not, you want to know is it going to get you there with a better experience, less expensively, and you absolutely want to make sure it gets you there safely. So all of these things around smart, connected, autonomous, and safe in a way that gives you a great experience is what we're focused on. And so, that's why we've got a very focused effort on artificial intelligence, a very focused effort on connecting all of our vehicles in a smart way and this Transportation Mobility Cloud that's the glue that's going to hold all together. All of that's part of this network effect that you talked about and I think that's absolutely coming. And we think companies that focus only on putting a robot in the car to replace the driver is missing the point.

And that's kind of okay with us if they miss the point because we don't think we are missing the point. It's more than about just the robot driver. It's about having a system solution. And getting that right is a hard problem. I mean it's a hard thing to do. And I think when you try to rush that and get it right by going fast, you're going to make mistakes, so you're going to put people in danger and we're not willing to do that.

So we're willing, we're focused on going as fast as we need to in order to get there in a way that's going to bring value to our customers, in a way that's going to create that network effect, in a way that's going to engender trust because we think at the end of the day, consumers are going to – they're going to respond to the company that they trust in this hyper connected, digitally smart, artificially intelligence embedded world. And we're already seeing signals of where people are voting with their pocketbooks when they don't feel that trust from companies that fall short of that metric.

Now, will that lead to some kind of an OEM consolidation, I have no ability to predict that. All I can tell you is that as we focus on bringing smart vehicles to a smart world that have this sense of trust and that is solving the human centered need for moving themselves and packages to make their lives better, we think that's a winning equation.

One other thing I need to say, which is, this has to be done in a way that actually solves some of the pain points of today's mobility system. Today's mobility system is broken, just look out the window. We're – getting here from the airport it was just filled with congestion. And 40,000 plus deaths a year in the U.S. alone, over 1 million globally. The air quality concerns or the sustainability challenges to this planet driven by mobility, not just cars and trucks, but air travel mobility. The system is broken and we have to respond to that with a better design. And that better design includes getting it right, being safe, being smart, bringing intelligence to it, orchestrating the mobility modes in a way that they work together more smartly. It's not going to happen tomorrow. But we think a key part is putting the design in place that allows these things to all talk to each other, so that the collaboration will actually make congestion better when you introduce autonomous vehicles into a city like New York or Miami or Washington D.C.

If you just introduce a bunch of robot cars into the system without thinking about these other issues, congestion is going to get worse. And the experience of getting where you want to go isn't going to be better. And so people might ride in the robot car a couple of times because it's kind of cool and it's a novelty. But they're not going to do it the next time because you got them there either slower or it wasn't a good experience or maybe it didn't meet your expectations in some way. So getting it right is important.

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Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Okay, so two follow-ups on that. So if you believe in network effect what you said, then when you say that you don't believe there will be consolidation or necessary consolidation..

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

That's not what I said, I said I can't predict it.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Okay, okay. So I'll skip over that then. But in a world where network effects exist, you [ph] couldn't (00:29:38) see a scenario where the OEMs would substantially – and the need to contract the number of them.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Perhaps.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Okay. Now the interesting question to me is about as I listen kind of on a deeper level to what you're saying about like some of the keys to success in this future world, right, so it's not just about having autonomous vehicle, right. It's about this network and solving the entire communal system, which is something I'm a big believer in, right. So as I think about an autonomous vehicle I think of it like a bicycle or a scooter or a car which is like for certain functions, it's going to be the best and for certain functions it's not going to be the best. And it might be distance, it might complexity et cetera. So who has the ability, is the question, to best determine that network and to best manage that network. So you're saying like hey, as Ford, we're very focused on this so we have this great strategic advantage whereas I would say the person that's already moving everybody around the country across multiple different modes every day and helping understand the tradeoffs between price, cost, convenience, safety would be in the best position which would probably not be an auto company. So it would be like an Uber or a Lyft, who's collecting all that data on a daily basis. So as you think about your strategy and not just yours, Ford's, but like other OEMs that are following this strategy and then you think about the information necessary to be successful in that future world you're talking about, how do you view yourself versus a network player like that, or even a Google Maps.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Yeah. I think there are a lot of network players and clearly Uber and Lyft and you could even throw in the telcos, they have a lot of access to information and data. There's no question about that, but so do we. I mean we have millions of – we sell millions of cars every year. And our customers are in a position where they're interacting with their – every time they interact with us they're doing something regarding mobility.

And we think that's got great value. And so, the combination of that plus our strategy to not just go this alone, but to engage and attract the right partners so that we can go after this broader strategy of connecting smart vehicles into a smart world, we think is a pretty good formula. I don't think this is a one winner take all scenario. I mean I do

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think there's plenty of room in here for a handful of winners who figure out how to do this right and that figure out how to bring a position of trust and a position of making the experience better.

So, it's a combination of do you trust the company, are they focused on my experience, are they doing this in a human-centered way, is the experience better than my alternatives, and is there some advantage that you're bringing to the customers and the consumers in this mobility space. We think we're positioned to do all of those. It doesn't mean we're the only ones positioned to do all of those, but we certainly believe that we are one of them.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Okay. Let's talk about economics. I will go up and down the spectrum in terms of economics, and maybe we can talk a little bit about timing as well. Can you talk about the evolution of economics of this sort of like multi-gear bicycle or multi-speed drive chain as you're talking about bicycle and how that evolves over time like what are the sort of like Moore's Law of economics. And then does that have any parallels to multi-modality of the, what we call light electric or light non-electric vehicles, in the United States that will be helpful?

Dave Neiswander
Chief Executive Officer, World Bicycle Relief

A

Sure. Yeah. There's definitely possibilities as far as the technology that we're putting together for the bottom of the economic pyramid could definitely sort of move its way up into the developing world. And so that's something that could be of interest to us as an organization looking at how do we solve some of the mobility challenges and the distances that we're talking here as far as the distances and the terrain that's being covered when you have a hilly conditions having a single gear 50 pound bicycle is not going to be your best option.

So having that ability to have two, three gears that give you that climbing range as well as that cruising gear is going to be a huge enabler as far as what your reach looks like. So instead of potentially having a 5 mile radius by walking, you might have a 30 mile radius by having multiple gears looking at. So we're really excited to sort of see what that looks like. There is a challenge though working at SRAM, the SRAM Corporation they make things that are faster, lighter, make – go on the Tour de France type bicycles.

Here we're looking at componentry that has to be heavy-duty, repairable, something that's going to be able to withstand the challenging, that external derailleur to shift your gears doesn't work in this context. It just simply doesn't work. So you have to think in different ways of what technology that's repairable and create that additional distances that can be reached and that could be a life changer. I mean that can – we've seen increase in dairy production as I mentioned before at 23%, we've seen girls attendance improve by 28% with a bicycle program. And our focus specifically on girls and girls' education, our flagship program is called Bicycle Education Empowerment Program, 28% improvement in girls' attendance and a 59% improvement in their quality of education and their performance. That changes the cycle of poverty and disease in the developing world. If you educate girls, all of a sudden magical things start taking place. So we're really excited to be part of that mobility solution that's often overlooked in this development.

We talked to the folks at the World Bank and to other larger multilateral organizations and bicycles are seen as IMTs, intermediary modes of transportation, or in fact that in the hierarchy of mobility, bicycles have a long way to go in both – and I think we're seeing that resurging here in the developing world as far as the usage of what we see here in Citi Bike and other bike sharing programs but certainly in the developing world, it's a major game changer.

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Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

And then you know you have multi modes already of transit between the bicycles, Chariot and the vehicles. So same question but in two different components of it, right. So what is the cost per mile driven for a vehicle today that you produce, the non-autonomous vehicle? And what do you think the asymptote of possibilities is either autonomous or non-autonomous on that? But then also can you talk a little bit about the pricing as you go down to Chariot and bikes which are meant for a broader spectrum of people?

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Yeah. So, I mean depending on where you live and the price of fuel, owning a personal car and driving from one point to another is somewhere in the $0.50 to $1 a mile range. And so, if you want to get better than that, and autonomy can take the driver – I think an autonomous vehicle can lower the cost to about that same range. And so, the notion of having a solution that's about the same price as personally owned cars is pretty attractive financially. Public transportation and micro transit using services like Chariot is less expensive than that which is why it's an option. But if you kind of look at that frame that I shared earlier which is you've got increasing convenience on one axis and distance on another. You've got lower cost for something like a micro transit, but you have less convenience and it might be worth it to you to save the cost by trading that with convenience. That's why having those choices and orchestrating those choices in a given urban environment is so important because you can't assume that everyone is going to want a personally owned vehicle or even can have a personally owned vehicle. You certainly can't assume that everyone's going to use micro transit or public transportation either. So you need to have a way of knowing who's using what and then acting on that, designing the solutions so that they respond to that spectrum. So that's something we're working on. We're trying to simulate the trade-offs in a city setting to help us make decisions about how we would bring solutions to an urban environment. That's something that's on our road map. We think it's going to be very important. Again that's all part of the plan for getting it right instead of trying to be focused on being first.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

When do you think – so probably a three-part question. When do you think that the first autonomous vehicles will be used not as a sort of like in Phoenix like where it's a demo area, but actually be used as a part of the transportation ecosystem? How do you think they will be deployed within that system so will they just – will it be like Waymo or Ford or Cruise or whoever deploying a system that's just point to point with their own technology or will it be implemented through like a Lyft or an open marketplace for it. And I'll follow-up after that.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Yeah. So a couple of things are happening. One of the things that I mean, I think everyone in this room is pretty familiar with what's happening in the AV and the technology, I'd say the [ph] fringy (00:39:34) technology world, you're seeing a lot of activity to sort of partner up with a person that you or a company that you believe can actually take your technology to market. And that's not surprising to us at all because when we started our journey, we knew that we had the ability to actually take this technology to market.

And as you looked at the landscape of the tech players in the AV world, there are many players that are not poised to do that. So our game plan is pretty straightforward. I mean we're going to bring our technology to market with our technology – with our technology partner, which is Argo AI. They are very serious player in the

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autonomous vehicle stack arena, more than 300 strong in Pittsburgh and growing and we're going to bring that together with our engineering expertise to the Miami market in 2021.

And between now and 2021, that's the time we're going to use to get it right, to design the system that have great experiences, to ensure that we can do it safely and so on and so forth. Now, there'll likely be others who come to market before that between now and 2021, but that's in the ballpark. There's not going to be dozens of people bringing these solutions to market, there's going to be a small number. And so, you're starting to see these pairings between technology companies and the OEMs. And we believe that those pairings are happening because the technology players who were a pure tech play working on the robot to go into the car, began to understand that, jeez, to actually get this to market, you've got to figure out how to integrate it in the vehicle, you've got to meet FMVSS requirements, you've got to actually build it at scale, you add up the service model, et cetera, et cetera. And so I think this pairing is a very natural thing that you're seeing. The good news for us is there's no friction between the Ford engineering expertise and experience and the Argo roboticists. And so we believe that that's going to, in the long run, be an advantage for us.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

And when you talk about Miami, can you just help us understand like in 2021 what do you mean by we'll be in Miami?

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

So what I mean by that is, I mean we are in Miami today doing testing with safety drivers, mapping the streets, understanding the human-centered need. So we were partnered up with companies like Postmates and Domino's to run these prototype experiments to see how people would use the technology, how they would interact with the vehicle to figure out which streets work better than others. So that we really knew how to go into that market smartly, and how to do it in a way that would actually make the experience of mobility in the city a better experience. And it's a huge part to actually do it in collaboration with the city. So that we're part of the system and the solution as opposed to bringing Miami another problem. That's the last thing they needed. So when I say 2021 going to market, I mean we'll be ready to actually have a business endeavor to deploy autonomous vehicles. So a private citizen can hail a Ford autonomous vehicle and move from one place to another and an autonomous vehicle without a safety driver.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Okay. And specifically on a Ford app. So they would specifically request a Ford vehicle?

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

In a Ford vehicle, the nature of the haling mechanism has not been finalized, yet.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Sounds good. Can we talk about healthcare for a second? So, one of the things that's interesting is, is one of the U.S. ride-hail players has made a significant amount of progress in the non-emergency healthcare transport sector which is like $40 billion of transport per year which is – that's bigger than most markets in general even though it's a subsector of this market. First of all, in the emerging economies, are the bicycles a form of either

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emergency or non-emergency transit, and is that a big chunk of it or an insignificant chunk, and then when it comes to you of course is, is that something you guys have a focus on?

Dave Neiswander
Chief Executive Officer, World Bicycle Relief

A

Sure. Our first program in Africa back in 2007 really was focusing on the HIV AIDS epidemic. And so, working with volunteer healthcare workers that were going to do home-based care as well as working with children that were orphaned. There was over 1.1 million children orphaned in Zambia because of the AIDS epidemic, and appreciate Zambia is the size of Texas and very little infrastructure. So there were 23,000 volunteer healthcare workers that are being trained and carrying goods, services as well as pharmaceuticals to the households of those that are afflicted, and they had to walk 10-15 kilometers. And so having a reliable bicycle, having a reliable transportation system made a huge difference.

That volunteer group, the typical volunteer healthcare services group would have a 50% annual retention rate and with our bicycles and our incentives that we put in there and training the field mechanics there was a 97% annual retention rate. And so, with that we took those learnings and put them into other programs, the education program I mentioned and some other economic programs. But I think – I would think about 60% of the bicycles that we sell through our social enterprise are into healthcare programs, large scale programs that include maternal health. And so, a woman that lives 15 kilometers from the most recent – from the closest clinic when she's going into labor, having a bicycle and a bicycle ambulance that's attached to it to take her to the healthcare clinic, saves lives, every day. So again that reliable transportation, that link to healthcare that we take for granted really is a big challenge there. That's where the distance is a true barrier.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

So first of all, let me just say that I think this is a hugely important topic and because it speaks right to the heart of the importance of mobility as because mobility is about human progress. So this is a great example, where there are so many people that need access to mobility to just get to medical care. So and it's also a really important example of why it's not just about taking humans out of the loop when you're talking about autonomous vehicles. So our non-emergency medical transport is it's a mobility service that we provide and we're providing that mobility service initially in a small number of markets, but it certainly has the opportunity to scale and expand from there.

But what we're learning in this service is that it is saving lives, to Dave's point, that people who otherwise didn't have access to the ability to gain medical care can now hit – basically hail a non-emergency medical transport from Ford and we'll take them to a medical clinic. And during that transport, there is a person in the vehicle to support their medical needs. And that's really important to recognize that even in the [ph] in vision of (00:47:09) the autonomous future when we can ultimately remove the driver from a service like the non-emergency medical transport, there'll still be a human in the vehicle to provide that service. Again, getting that service right includes designing the NEMTs so that you're meeting the human need of the person who's requiring that non-emergency medical transport service. So that's an example for how we're thinking about this broader question of how will smart connected vehicles participate in our future smart vehicle, smart world ecosystems. So it's a great example of that.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

I'm going to push back again on one thing that you might have already addresses, but I am just trying to get at it from a different angle and then maybe we'll open it up for questions, [ph] is that a good idea (00:48:05)? So let's

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assume that you go into Miami which is one market in 2021, you test for like let's call it 18 months before you decide, hey, we can start scaling now, right. So call it in 2022, 2023 before you're really scaling either outside of that market or within more geographies non-geo fenced geographies in that market. Is that a fair?

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

No, I think you're reading more...

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group
Q

Okay.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

Yeah. You're reading more into what I said. So we will deploy the first service in Miami in 2021. The scale up plan and the timing of our deployment in other cities is to be announced. And so, we haven't communicated that yet. And so, we'll learn a lot about how quickly we can scale and deploy to other cities between now and 2021.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group
Q

Okay.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

And so, I think there's still a lot of open questions about the speed and a lot of it will depend on how we land in these ongoing partnering conversations we're having. And so, there's a lot of potential here. And just to be transparent about it, I mean, we've communicated this already before, but the reason we set the Argo deal up the way we set it was we didn't just bring them into Ford and say, okay, now Argo you're a part of Ford, scale up and do what you do. We left them as a startup company and we put Ford investment into that startup, so we were the VC for Argo, and Argo is a separate company from Ford that has Ford as their primary customer. But we did it that way so they could potentially attract other investors. And so how that plays out will have a huge impact on our ability to scale and speed and to deploy it to other cities. So I think there's a lot to look forward to as this plays out over the next two to three years.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group
Q

Okay. And with respect to that strategy, I mean it was interesting because Cruz, in theory, didn't take that initial strategy. They sold 100%, but now they've raised multiple billion dollars in investment as an independent company, so they looked at what you did, felt it was smart and replicated it. But at the same time, by virtue of copying you, they've maybe gotten a little bit ahead of you on that strategy too from a capital raising and then also parting with our OEMs, which is unusual in this industry.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

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Yeah. But I didn't – don't spend a lot of time sort of analyzing their specific moves, but we're sticking with our playbook, which is to follow through on the design of the Argo financial structure, and we feel pretty good about how that's going to play out over the next year to two years.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Okay. Maybe we should open it up for a few questions.

Q

[indiscernible] (00:50:54).

Dave Neiswander
Chief Executive Officer, World Bicycle Relief

A

Well, we are applying and using the top minds in the cycling engine – industry.

Q

[indiscernible] (00:51:16).

Dave Neiswander
Chief Executive Officer, World Bicycle Relief

A

Disruptive. There you go, there you go. Good way to look at it. That's great. Thank you.

Q

[indiscernible] (00:51:30-00:52:10).

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Yeah.

Q

[indiscernible] (00:52:11).

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Yeah. So that's a great question. And we have some good technology on our side. It's actually pretty good news for the autonomous vehicle industry. You don't have to rely on GPS. In fact, most of the modern AV players don't rely on GPS for the location for, we call it, localizing the vehicle in its environment. That's why having a prior map of the environment that you've actually driven is so important. And so we're using that technology of mapping the environment ahead of time by driving the areas where you want to deploy the autonomous vehicle, and the LiDAR

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sensors on the vehicle actually map that area that you've driven previously, and we store that information. Now, that's a tried and true method. That's been around since the days of DARPA back to 2007.

The good news for 2018 is that's being coupled with a number of other additional new technologies, including advances in camera technology that can actually do incremental updates to maps that are originally created with LiDAR. There things you can do also with high resolution imagery that you can get from other sources. There are things you can do even with aggregating information from consumer cell phones. And so there's a lot of technology that can work to our advantage. And the wizards at Argo are hard at work bringing all of those tools together and bringing those into our autonomous vehicle so that when you say I want to ride from here to there, we know where here and there are. So turns out that's one of the least of our worries, it's how actually to do that.

Q

[indiscernible] (00:53:56).

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

I'm sorry, what?

Q

[indiscernible] (00:53:59)

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

So, our localization technology, I'll get you roughly in the vicinity of two to three centimeters.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Yeah. And there's two different challenges to that, right? One is, how do you have the vehicle drive, right, so you can do matching through LiDAR cameras? And then, there's also, where's the Starbucks? So I'm not sure which part of your question is that. You're talking more about driving?

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

I answered your question as though how do you drive. Now, where's the Starbucks? That question can be answered with a number of other interesting new technologies that we're talking to some companies that have actually pre-mapped the whole earth and have signed unique names to that mapping. And whether or not you can couple that into a pick me up here kind of request is something we think is very feasible. So, look, the good news – the bottom line here is, we don't think that's one of the harder problems.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Yeah. And that's good news for places like India.

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Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

Exactly. That's right.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group
Q

[indiscernible] (00:55:00) your address is the red roof across from the laundromat?

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

That would pick me up to 20 steps from the tree on the – right next to the red pole. You can give it specific address name and we can go there.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group
Q

Okay. We'll go clear to the back end and left and then come to you next, if that's all right.

Q

[indiscernible] (00:55:18).

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

Well, I love the question because we haven't talked about electrification and that gives me a chance to talk about electrification.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group
Q

That's my fault.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.
A

It's really important. This whole notion of doing the right thing for the planet and being more sustainable, something we're committed to, which means we have to electrify our fleet. Not just for sustainability reasons, but also because we think that's going to create choices for consumers, and we think many of our consumers are going to love those choices, it's going to be the preferred propulsion choice for many people. And so, it's in our plan to be a very aggressive provider of electrified propulsion systems with literally, I don't actually remember the numbers, so I'm not going to quote one, but it's a large number of electrified platforms between now and 2023. And starting with an all-electric 300-mile battery electric vehicle in 2020. So we're very excited about our portfolio and our investment strategy to electrify our propulsion choices.

As it relates to autonomous vehicles, the power draw on autonomous vehicles today makes a fully battery electric vehicle autonomous vehicle not a very good choice, from an experience and a business point of view. We anticipate that will change over time as battery energy density increases and as the power draw requirement decrease. Sensors are getting better in lowering power draw. Compute devices are getting lower in powering

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requirements all the time. And so, our anticipation is that battery electric vehicles will be part of the equation over time. We are designing our autonomous vehicle architecture so that we can easily swap out the propulsion system from a hybrid to a fully battery electric platform windows when that tradeoff actually makes good business sense and good experience sense.

But for today, the first deployment of our autonomous vehicle in its first instance will be a hybrid powertrain, that has the ability to evolve and easily swap out without an architectural change to a fully battery electric vehicle.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

To put some numbers on that, then we'll take one final question. One of the leading AV players said that their system would draw an entire battery, Tesla's largest battery, empty in less than 10 minutes. So that...

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Sounds about right.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

Yeah, sounds – so that's why that's not possible. And then, the cost of those systems which will come down, so in technology always have to know that the cost – the initial cost is not relevant, it's taken investors a while we get there, but they're confused as the loan is several hundred thousand that resides within the vehicle.

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

And let me just follow up one more thing. This is a great example of why companies that have had no frictions between the vehicle engineering team and the autonomous vehicle team, I think, are in a really winning position because, I mean, I'm still confounded by people that say that full battery electric vehicle can be autonomous and some reasonable. It just doesn't work, right? It doesn't compute.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Q

And then, there's time for one final question, and I'd already promised it to the back of the room, so apologies.

Q

[indiscernible] (00:58:58-00:59:47).

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

What? I'll start...

Dave Neiswander
Chief Executive Officer, World Bicycle Relief

A

Sorry, go ahead.

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Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

A

Actually – I was actually thinking about that question on the way over here because we did a little pre-call and when I got to meet Dave on the phone, I was like, it's really cool business. And oddly enough, we actually – our roles do intersect actually pretty significantly because we do a lot of research on my team on exploring ways to bring technology to underserved communities. And so we participated in a project called – it was called Ford Better World or something like that. And it was intended to identify ways you can bring technology to people who live in third world environments who don't have access to the kind of mobility choices that we have. And a couple of the ideas that surfaced from that work involve ideas like multi-modal solutions involving bikes, bringing clean drinking water to people in Sub-Saharan Africa, power – remote power so that you can always have power from a hybrid powered vehicles. So I'd be really interested in maybe chatting with you offline about how Ford technology like that could interact with a bike technology like with your company.

Dave Neiswander
Chief Executive Officer, World Bicycle Relief

A

That's great. I mean, when you think about, it Sub-Saharan Africa, the developing world, it is the final frontier. I mean, there's – and there have been examples of amazing technological leaps, when you think about the cell phone, in Sub-Saharan Africa. There's no copper wires and landlines in Africa. There is cell phones, but my golly, you'd go out into the middle of nowhere. And that healthcare worker has a cell phone on her phone – using her cell phone, or that farmer is using his cell phone to figure out where is the best price for the market today that I can go now with my bicycle and deliver goods and get a higher price versus the one that's next door. So I think there's – there are leapfrogs, and we're already seeing it with microfinance, microenterprise, the pace you go. It's pretty amazing where some of those technological leapfrogs that do come into the developing world. I think mobility is going to be one of them. And so we'll do that.

Storm Duncan
Global Head-Mobility Technology, Joint Global Head-M&A & Managing Director, Jefferies Technology Group

Great. Well thank you. I appreciate your time very much. And look forward to hopefully having some more conversations down the road.

Dave Neiswander
Chief Executive Officer, World Bicycle Relief

Thanks [indiscernible] (01:02:16).

Kenneth E. Washington
Chief Technology Offier & Vice President-Research and Advanced Engineering, Ford Motor Co.

[indiscernible] (01:02:16).

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