So, I'd love to talk a little bit about cars today. So, cars have always been an irrational affair. If you think about it, it makes no sense whatsoever to take two tons of metal to move a person from point A to point B. Nevertheless, we have 1.5 billion cars in the world today, and they have a very dear place in many of our hearts. So for some of us, the car represents the opposite of what we have in the world. For some of us, the car represents the ultimate engine of freedom, like blow it all off and drive away. And for others, it is the coming of age. Like, maybe you had your first kiss in a car. I see you smile. Or maybe the car even had a name. So, if we look to China, only 16% of people say that a car does not increase your status significantly. And in 2018, the world was watching when in Saudi, women took to the steering wheel for the first time. Musicians aren't writing songs about microwaves or Fitbits, but Prince had his song, Little Red Corvette, and Rihanna had a great number one Billboard chart song with Shut Up and Drive. Now, when you look at car commercials, they typically look like this, super romantic. Basically, they take you in a very safe space, fantastic, gorgeous landscape with your dear ones around you, and you can basically drive forever into beautiful land. Now, of course, we all know that this is extremely glamorous, but doesn't really reflect reality. When you do buy a car today, what this feels like usually is like this, right? You stand in traffic, you look for parking space, you breathe recycled air. Clearly not glamorous. The other thing is if you put about 100 cars from all kinds of brands next to each other, I guess you will probably also agree that they look more or less all the same. Individuality is clearly dead. So now, next to this crisis of the brand and of car industry, there are three major technology trends that are hitting the industry massively. The first one is well-known, which is the shift from fossil energy to clean energy. That one is actually well underway, well understood. By 2028, we expect that pure battery electric vehicles will be the most sold type. But I'd like to focus more on the other two. So one of them is the shift from mechanical to software. And what it does is you don't actually have anymore a fixed product, but it will continue to evolve, to learn, to change. It's a bit like a touchscreen instead of a keyboard. The other one is you add AI on top, and it means that you will have the ability to switch from human-operated to machine-operated, and the robot takes over as

the driver. Now, of course, car companies have also understood these trends, and they are working to incorporate some of the capabilities into the cars. But I think we have a way longer way to go, and we will soon see the emergence of what I call the software dream car, as opposed to the freedom dream car or the other mechanical dream car that you had in the past. So actually, you may be surprised I'm actually not a car guy. So I don't have petrol running in my veins or something. So I'm actually a software engineer, and I had the pleasure to work in many other industries before, including telecoms, media, phones, TVs, drones, whatever comes to your mind. And all of them have already gone through the disruption of software. And it made massive changes to all of those industries. So I'm now very proud that I can work with auto companies who are just at the beginning of this journey. Now, we have been approached, my team and myself, just very recently, by one of the iconic car brands to think through the future of that software dream car. How does it look like? So we actually co-created something, and we reached out to a bunch of people working with the auto engineers and the designers, for sure. But then we also looked at the professors in neuroscience and biomechanics, creative artists, people from science fiction, all the way to luxury industries. And we brought it all together in a multidisciplinary perspective. And I'd like to share some of that today. So I hope you are ready for that. Off we go. So let's start at the center of the description. This is really the core functionality of the car. And obviously, it will have an AI driver driving you around. Now, that AI driver needs to be a factor of 10 better than any human, which means less than one fatality per one billion miles traveled. This is a very hard problem, and the industry has been littered with failures over the past 20 years to get this done. But we are very close. And when it does happen, it will become only one part of the functionality of the vehicle. The other part of the vehicle is actually going to be the in-car experience all around you, because you will not be driven by the AI driver. So this is going to be shaped by augmented reality and virtual reality. Now, to show a little bit how this could feel like, I'd like to just give a glimpse from a movie that maybe many of you have seen, Blade Runner 2049. Fantastic movie. I hope you all loved it, the ones who saw it. Now, there's one character in there. He's the bad guy,

so I love to talk about him. It's Wallace. And he actually is vision impaired, so he can't see by himself. But he has a set of floating sensors in a room, and that gives him the ability to see from multiple angles at the same time. Now, it's a bit creepy because it's shown with little bugs floating around, so I don't think that's how it's going to be implemented in the software dream car exactly. But you get the idea that also in the software dream car, you will be able to actually get an overlay picture to the normal reality that will have all kinds of information and entertainment around you. And you will come to expect that when you drive in the physical world to a destination, that you will also want to be in the virtual world during the same time. And the vehicle will be the thing, the device, that takes you to both places. Now, if I turn it up a little bit and I look at the next layer, I want to talk about the performance and the quality. The software dream car will have basically a computing power that is about 10 times faster than any other device that you have. And it better does, right? Because I guess we all got very impatient when we push a button in our cars, and nothing happens for five seconds. So you will get really furious if it takes more than a split second to switch from virtual reality to real reality, so to say. And what you really want is it should feel more like a well-orchestrated dance between the human and the machine, on precision, very fast, immediate. And the same is true, then, again, for the AI driving. If it feels like a choppy ride, like if you are in an Uber from the 2020s, this is not the experience you want to have. You want it to be smooth, besides the traffic, and not like getting stuck all the time. Then let me go through the last layer on top of this, which is the one that I find most exciting, because this is bringing together the full experience. And the comparison I'd like to make is a bit like a photograph. A photograph can become a piece of art. And it does so because it makes you stop, start thinking, search also for meaning. And you will have a similar impression with the software dream car, because it will be able, when you have downloaded that NFT photograph, hopefully not of a monkey or so, but some other kind of nice photograph, and you want to put it on the outside of the vehicle, well, you will actually be able to do that. No problem. When you are creative and you want to change the functionality of the car, well, you can program it, download it, and it will do what you want to do. So

again, you are in control of both the interior and the exterior experience of the vehicle. You will also have sensors in all the surfaces. So you can basically imagine the car will be able to sense any tensions in your muscles, but also any bumps in the road, and it can adjust to both of them. Now, what's actually surprising, maybe the technology is all there. It's not the barrier. We have all the lidars, the radars, the cameras, the holograms. We have quantum computers. We even have brain computer interfaces, and they are operational. For many years, people have chips implanted, and it works. So why don't we see those software dream cars on the road? Well, it's a big step, right? If we look at the automotive companies, they obviously have managed to get cars on the road for more than 100 years, but this step here requires so much new technology understanding, data, and the ability to innovate fast, that it is a huge step forward for them. And you have about 15 million people working directly in the industry globally, plus another 50 to 100 that are in adjacent industries. And many of them, you will have to change, retrain, get into the new world, so it's a long way to go. And then you have the tech companies. Well, those guys, they go wild. They have also made us already addicted to smartphones and media and so on. So I'm sure they can make us addicted as well to their car. But they shy away from the liabilities because at the end of the day, this is a life-and-death product. So you need to be really careful about this. So as we think about the future, I'm totally convinced this will happen very soon. It's around the corner. Now, the question will be, is this now good or bad? And that's a fair challenge. Now, if we put it all together, it's actually complicated. Because first of all, that car will mostly be available for the rich few initially. Also, as I said before, it will upend the lives of many people that are especially in mechanical jobs. You will have plenty of new jobs coming along, but they tend to be in totally different places and also in different skills. And also what's going to happen if you make a product more attractive, you will actually have many more of those on the street rather than fewer. So the good thing is, again, you take out the human in the driving, so it becomes a little bit more controlled and safe. And then what about that little red corvette from Prince that we had a bit earlier? Well, it's also going to be quite different because the software dream car will quite literally be able to

read your mind, which is kind of scary. But at the same time, it also is really good at predicting what you want to have and your preferences, which is kind of nice. And also the camera that you will have in the car will actually be able to also detect when that little child has been left in the overheated vehicle. And the vehicle is able to basically open the windows, put on the air condition, call emergency services, and save lives in their own way. Now, the other big thing I want to point out is, remember, individuality, which is dead today. I think if we now look into the future, we will actually see that the software dream car will enable you to really escape into a world that you can shape on yourself, both digitally and physically. It is really up to you to make it your personal experience, again, in the virtual world and in the real world. It's going to be possible in a way that is way further than anything that you have seen in any recent past. So if we take this all together, I guess the question comes down to, are you guys technology optimists or pessimists? And really what matters to me is, over the next 20 years, when this software dream car will come to the real world, it will be a bit like a white sheet of paper. It's not good or bad on itself, but it is the largest real-life experiment of AI and humans interacting on a daily basis. So I would encourage all of you to embrace it, see the beauty, but also shape it and drive it in a way that is good for the wider humanity. And I can only speak for myself to say that I'm really excited about what the future holds for us. But I guess for all of you, the question will be when Rihanna will release a song in 28, shut up and program your future self. Thank you very much. Thank you. Thank you.