so i'd love to talk a little bit about cause today so cause i've always been an irrational fear if you think about it it makes no sense whatsoever to take two tons of matter to move a person from point a to point b nevertheless we have one point five billion cause into the world today and they have a very the a place in many of our hearts so for some of us the call represents the ultimate engine of freedom like blow it all off and drive away and for others it as the coming of age like maybe you had your first kiss in a car as use my or maybe the car even had a name so if we look to china only sixteen percent of people say that a car does not increase your status significant and in twenty eight seen the world was watching when in saudi women took to the steering wheel for the first time musicians are writing songs about microwaves of fit bits but friend such his song little red corvette and vienna had a great number one billboard charts song was shut up and drive now when you look at car commercials they typically looked like this super romantic basically they take you in a very safe space fantastic gorgeous landscape with your deal 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 disputes like usually like this where you stand in traffic you look for parking space you breathe recycled air clearly not glamorous get a thing as if you put about one hundred 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 debt 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 as well known which is the shift from fossil energy to clean energy that one is actually well underway well understood by twenty twenty eight 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 just software i what it does as you don't actually have any more a fixed products but he will continue to evolve to learn to change it's a bit like a touch screen instead of a keyboard the other one as you adds a eye on top and it means that you will have the ability to switch from human operator to machine operators 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 cause 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 cut that you had in the past so actually you may be surprised i'm actually not a car guy so i don't have patrol running in my veins or something the i'm actually a software engineer and i had the pleasure to work and many other industries before including telecoms media phones de vries 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 know you're proud that i can work with auto companies who are just at the beginning of this journey now we have been approached by team and myself just very recently by one of the iconic car brands to think through the future of that soft dream got how does it look like so we actually coke created something and we reached out to a bunch of people working with the audio engineers and designers for sure but then we also looked at the professors and nero's science 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're ready for that of we go so let's start at the center of the description this is really the core functionality of the car and obvious the it will have an ai driver driving around now that he i drive a needs to be a factor of ten better than any human which means less than one fatality per one billion miles his chauvet this is a very hard problem and the industry has been littered with failures over the past twenty years to get this done but we're very close and when it does happen it will become only one part of the functionality of the vika the other part of the vehicle is actually going to be the incur experience all around you because you will not be driven by the a 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 later on the twenty forty nine fantastic movie i hope your loved ones who saw it now there's one character in there is the bad guys so i love to talk about him it's it's wallace and he actually his vision impaired so he can see by himself but he has a set of floating sends us in a room and that gives him the ability to see from

multiple angles at the same time nights a bit creepy because it's shown with little bugs floating around so i don't think that's how it's gonna be implemented into software dream car exactly but you get the idea that also in the software dream car you will be able to actually get like an overlay picture to the normal reality that will have all kinds of information and entertainment around you and he will come to expect that when you drive in the physical world to a destination that you will also want to be and a virtual world during the same time and the vehicle will be the thing the device that take it to both places knife i turn it up a little bits and i look at the next on i want to talk about the performance and the quality the suffered real car will have the basic the a computing power that is about ten times faster than any other device that you have any better does right because i guess we all got very impatient when we push a button and our cars and it's like 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 as it should feel more like a well orchestrated dance between the human and machine on precision very fast immediate and the same is true down again for the ai driving if it feels like a choppy era right like you have issue i know and who bought from the twenty twenties this is not experience you want to have you wanted to be smooth getting besides the traffic and like getting stuck old it's 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 photograph can become a piece of art and it does so because it makes you stop stop thinking such also for meaning and he will have a similar impression with the software dream car because he will be able when you have downloaded that's enough to photograph hopefully not have a monkey or so but some other kind of nice photograph and you want put it on the outside of the vehicle when you will actually be able to do that no problem when are creative and you want to change the functionality of the car when you can program it downloaded and he will do what you want to do so again you are in control of both the interior and exterior experience of the week you will also have census in older surfaces so you can basically imagine the car will be able to sense and tensions in your muscles but also any bumps in the roads

and he can adjust to both of them now what's sexy surprising maybe the technology is all their it's not the barrier we have all the us the raiders 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 softer dream cause on the road but it's a big step right if we look at the automotive companies they have as the have managed to get cars on the road from one hundred 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 fifteen million people working directly in the industry globally plus another fifty two hundreds that are in adjacent industries and many of them you will have to change retrain get into the new worlds so it's a long way to go and any of the tech companies are 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 think that as well to their car but the shy away from the liabilities because idea of the day this is a life and death products 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 went up and the lives of many people that i especially in mechanical jobs you will have plenty of new jobs coming along but they tend to be in totally different places and olds in different skills and also what's gonna 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 as 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 france 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 wanna 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 vehicle is are able to basically the

windows put on the condition call emergency services and save lives and 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 soft a dream car was unable to it's really escape into a world that you can sleep on yourself both digitally and physically it is really up to you to make it you are personal experience again and a virtual world and in the real world it's going to be possible in a way that his way he further than anything that you have seen in any recent past so if we take this all together i guess the question come down to are you guys technology optimists or pessimists and really what matters to me is over the next twenty years when does software dream car will come to the real world it a 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 a i and humans interacting on a daily basis so i would encourage all of you to embrace it see the beauty but also shape it's and drive it in a way that it's is good for the why that humanity and i can only speak for myself to say that's i'm really excited about what the future holds for us but i guess for one of you to question will be one reason or whether release a song and twenty eight shut up and program your future self thank you very much