Speech by Minister of Transport and Communications, Norway

Dear everyone at the Autonomy conference,

we are all travelling to places, to school or work, to cultural events or leisure activities, visit family and go on holidays. There are so many purposes when we are travelling, but what is common, is that we need a means of transportation. Sometimes a bicycle is sufficient, or our own feet. Other times we need motorised vehicles. We are in a period of major change, where many of the challenges we want to solve suddenly seem within reach. To reduce the environmental impact from use of vehicles and fuel, noise which affects neighbours, accidents which affect many of us, these are things we can do something about. Not because we want to tell others that we want to become better, but because technology aids us with passive and active support systems, with more sensible drive systems for the vehicles, which make fossil fuels excessive and makes it possible to handle the emissions problem.

This technology development happens faster now than anytime before, it is an escalating, positive approach. The last months I have visited the 5 largest car manufacturers in the world. Everyone says that even in their board rooms they have a different view on these problems now, than only a few years ago. Digitalization causes us to think about new solutions, the goal is still to earn money on selling products which solve everyday challenges for people and industry, but we see how technology makes the products better suited to function in everyday life.

Autonomy is among the most exciting technologies. I think it is about a similar leap forward which we had about hundred years ago, when the horse was replaced by cars. It was scary when the first cars came, they were expensive and unreliable, but at the same time many people saw that this was a better product, or at least had a better potential to start with, than to own your own horse. A horse which you always had to look after, which you had to attend to when it was cold outside, which you could never trust when it came to health, etc. The car was far from being perfect, but it felt like a large step forwards. Now there are many indications that we are near a similar quantum leap. We will still be sitting in some kind of motorised vehicle, with wheels on it, but the possibilities this vehicle has, will be completely different. When you think that just by pressing a button on a smartphone in the future, you can order your transportation, and you get an individualised public transport , because large amounts of data are processed. You get self-driving cars to navigate through city centres and urban areas, pick up people in a sensible order, and to drop them off at sensible locations, instead of a public transportation solution where everyone has to meet at a place where they are currently not, to be taken to a place which is not the destination, and then continue from there. Instead, by using autonomy and data, we can individualise public transport. This is among the most exciting topics when we talk about autonomous vehicles. Our behaviour can be affected, our choices and preferences personalised.

For many of us, becoming 18 years old and getting the driver's license, it was the symbol of freedom. You received the keys to a car, you could drive to wherever you wanted, whenever you wanted. It was a lovely feeling, I still remember how it quivered in my body, when I got

my driver's license, because it was the symbol of freedom I worked towards. Today, this is very different, you don't necessarily have to own your own car in five or ten years, to achieve the same freedom, because technology can help you with that. Maybe you even don't need a driver's license anymore to be alone in a car, to be driven to your destination, simply because technology makes it possible. This is what we want to achieve, and then it is important that we in Norway discuss what is our goal with autonomy. Do we want a lot of vehicles owned by private people, driving around, sometimes with people inside, but just as often, position themselves back home, empty. In this case we have not achieved anything with the wellbeing along the roads, and may get more traffic and not less. That is not how I would like to have it, as an active cyclist, or as a person who lives next to a road. We want to reduce the amount of traffic, or at least limit it's growth.

Because of this development, we may as well vision a future where we in Norway and the other Nordic countries talk about autonomy, and it means better facilitates for public transportation. We want to make sure that we have better solutions for the first and the last kilometers of your journey, with small self-driving buses, which pick you up and take you to the larger public terminals. There you enter larger vehicles, which faster take you to your destination, or get assistance again from a smaller self-driving bus at the other end. In this case we have made sure that the technology is used and that we overall get fewer cars or vehicles on the roads than otherwise. That would contribute to strengthen both local environments, the experience and safety of pedestrians and cyclists, and at the same time it gives me a better mobility when I need motorised transport. Studies show that if you live more than 800 meters from a public transport hub, you choose the car instead. It is too far to walk. To change this situation, that is where technology can help us, in the first round.

Autonomous vehicles will probably be more expensive than normal vehicles. That is another argument for the public transport sector being the first ones to use them, or car-sharing services. This can also change our everyday life, to cover many of our everyday travels using public transportation. For the special journeys you use your own car, but you do not have to own steel for half a million kroner yourself, you own it together with others. There might be a car-sharing service in a housing association. Avis or Herz could offer car-sharing services, where they own self-driving cars which come to you, instead of you going to them. I see in my meetings with the industry that there are a lot of actors looking for proper business models, because they believe they can earn money on this. They are convinced that the technology goes in this direction, and they have to position themselves and to find a business model that works. That is exactly the clue, when we want to change the world, we cannot wait for politicians to decide on things, to subsidize things in the long term. It can be a catalyst for development, but in the long-term, it is when you have large businesses involved, and the smaller, who see that money can be made by satisfying needs (and to avoid being in red numbers), that is when you have a development which is sustainable.

This is why it has been so exciting for me to meet the large car manufacturers. To see that they change their business perspectives, to see that car-sharing services can be just as lucrative a customer segment for them, compared to selling cars to individuals. When large capital with thousands of engineers involved in each car company develop these solutions,

then the development is much faster globally compared to what we used to be proud of in Norway, Buddy and Think. Great companies but they did not have the capital needed and the breadth in engineering capabilities which we see the large actors have now. I want to see Norway, even if we do not have car manufacturing here, take a leading role in this development. We want to make it possible to use the technology because it helps people in everyday life, but also because I think it can create jobs in Norway. To make it possible to test technology makes it attractive to come here, it makes it possible to team up with Norwegian businesses, large and small, to develop components, technology development, coding, etc. If Norway is the country they visit for testing, then it is the Norwegian local actors who often join later and can potentially take a global role in the end. That is why we in the Government has started working on new laws and regulations which will allow for testing of autonomous vehicles on our roads. This work is nearing completion, we will be sending it to the Parliament, and I count on getting it passed before the summer. Then Norway will have one of the most proactive laws in this area globally.

We have seen that in the area of drones we have done the same. We have made laws which make it easier to test out this technology here than for Americans to test it out in their own country. Experiences from the drone activities in Norway show that many American companies visit Norway to test functionality and at the same time team up with Norwegian actors. This has created jobs, but it has also helped Norwegian businesses getting a leap forward in joining the long-term development. When the Railroad Agency last year wanted drones to assist in surveillance of railroads, Norwegian companies won all the contracts. It shows that the State as a customer but also the instruments we have, help Norwegian companies become suppliers. That is a win-win situation for us. We only use the tax payers money to carry tasks through more efficiently, or increase their scope, and we get Norwegian companies to deliver products, which are proved in Norway and can compete internationally.

I wish you good luck with your conference today. It is an extremely exciting topic you address, it will change our everyday transportation, some people predict that we have autonomous vehicles within 4-5 years, others think more likely 10 years. But, just think back to our own youth, how distant all of this felt, and how far we have come if we within 10 years have autonomous vehicles compared to just going back to 2007 and remember how unrealistic it was then. I think this development will change our everyday lives, it will mean better transportation, more people will get access to good public transport. It means safer transportation, because many of the accidents which happen are not caused by the cars faults, but by drivers who are not attentive. A computer does not fall asleep when it is functioning. There are still things we have to make sure will work, it does not help if a computer works 99.9% of the time, if the 0.1% is when it fails on the highway. It requires much before we can deploy autonomy in full scale, but because we need to learn from experience, learn from testing, it is important to have laws which make this possible in Norway. So, good luck, be constructive contributors, stimulate the public debate and I look forward to the future.

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