Prof. Rupert Stadler

Speech

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AI for Good Global Summit

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United Nations

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Keynote Speech

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– Check against delivery –

Good morning!
Thank you Mr. Zhao Houlin, ITU Secretary-General for hosting the event. And thank you Mr. Steven Ibaraki for your kind introduction.

Excellencies, Ladies and Gentlemen,
I was invited as CEO of Audi. But today, I will primarily talk to you as the founder of the beyond initiative. Within the beyond initiative we discuss the impact of AI on our society. We are all here because we have the same intention – to use AI for good. In the following three days, you will explore how AI can be used to address some of the core challenges – such as hunger, poverty or climate change. It's about how to make the world a better place. It's about how we individually – as people from business, science, politics – contribute to the greater goal of today. The changes initiated by AI will be fundamental. Therefore, all of us have to work together to make sure that AI is used for good. And not for bad.

But what is good? I think we agree that it is not only about goods – about materialistic aspects. It's about core values of mankind: such as freedom – justice – and peace. And we may also consider personal needs and ideas such as security – trust – tolerance and acceptance. We should drive forward technological progress. Not for its own sake. So we need to be aware of changes in the relationship between humans and machines!

Past summer, I got to know Sophia. The conversation with her was really fascinating. She extremely looks like a human being. Her creator David Hanson, CEO of Hanson Robotics is with us today. Sophia made me think: The more intelligent machines become, the closer we will live together with them. And the more we will let them decide. This raises a couple of questions for me: Will we develop an emotional link to robots one day? What will be necessary that we start trusting them? Will we trust more if they look like ourselves? And finally: If robots will be able to think, what then will make us humans unique?

Let's keep an eye on these questions. Let's develop a common understanding of how to handle AI. I'd rather promote a self-reflected optimistic approach. As CEO of a car company – and as somebody thinking beyond. For example, what should hinder us from using AI to give everyone access to medical care? There are some countries in the world with just one doctor per 25,000 people. Medical robots for diagnostics and for minor operations can improve medical care. In developing countries as well as in industrial zones.

Let's think out of the box to solve challenges like cancer research! It's a race against the clock. Eight million people die of cancer every year while twelve million others start suffering from it. Why not couple all available computing power worldwide to speed up research on cancer? Just an example: The central

control unit for piloted driving alone has a computing power of 740 Gigaflops – comparable to an airplane including back-up systems. I imagine that even parking cars could join cancer research.

Let's think the unthinkable! Let's ensure unfiltered access for everybody to information and opinions! What Google can't find seems not to exist. And the filter bubble of social networks isolates us from facts and opinions that oppose our viewpoints. This is the only way to stop fake news: Let's argue the case for fair algorithms that maintain a plurality of opinions and allow informational self-determination. This is the base for any real democracy. In the long term, we might even have to rethink our system of earning a living! When in the future, algorithms generate a large proportion of value added, the question arises of whether our system of paying wages for manpower is still appropriate.

Our social system based on the division of labor reaches the next level. So we have to examine already today, whether a basic income or even a robot tax is the right answer. Let's think about what AI could improve when included in our process of decision-making! In 2014, a Hong Kong venture capital management fund appointed a machine learning algorithm to its board of directors. Definitely, this shows the relevance of analytics for the financial sector. For the time being, I could not imagine having a robot on board of our company. We have the responsibility for 88,000 humans. Sometimes it is good not to be rational alone. But using AI one step earlier in decision making for analyzing the crucial points I'm very open to that.

Let's take an example from the automotive business: With automated and autonomous driving we hand over more and more decisions to machines. We at Audi and our industry as a whole are convinced that this will be paramount for our future. And AI is crucial for its breakthrough. From the perspective of society, the new technology will make driving more efficient and more comfortable. But most importantly it has the potential to make our lives safer. 90 percent of all accidents today are caused by human error. So, above all, automated and autonomous driving promises to reduce the number of accidents significantly.

On our way to autonomous driving we do not only need technological advancement. We also have to shape the framework in our society. From a legal perspective, we need harmonized laws. First countries are issuing legislation for automated driving: Among them Germany. But law is only the first step: It will be crucial to gain public acceptance for the technology. When we let people try out our research car "Jack", we often see that minute after minute people gain confidence and trust in piloted driving. Seeing is believing. However, ethical concerns exist – and we take them serious.

The best-known example of these ethical questions is a dangerous traffic situation, where an accident is unavoidable. Imagine a situation, where the autonomous car has got three choices: Either it steers left and harms an elderly lady. Or it steers right and hits a pregnant woman. Or it drives straight into an obstacle and thus harms the own passenger. In such a situation, human beings like you and me have no time for thoughtful decisions. We simply react. But interestingly, we expect the autonomous car to make the right decision. And, quite understandably, people are emotionally touched when thinking of such a scenario. From a rational perspective, such a situation is very unlikely to happen. And of course we as car manufacturers do everything that we can to avoid such a situation. Our cars are equipped with many many sensors to detect dangerous situations and to fully brake autonomously – if necessary.

However, as soon as a car will make decisions by itself in a certain traffic scenario, such a situation can theoretically happen. How should the autonomous car decide when it is not fully clear what will happen in the direction it steers into? It is ethically sound to choose for the unknown? As a society, we will have to find ways how to deal with these topics. We need an open discourse, in which the massive chances of automated and autonomous driving are considered in relation to the ethical challenges. Because one thing is for sure: Facing challenges, should not mean to miss great opportunities. Discover the new: By the beginning of next decade, we will see cars on our streets that drive all by themselves. You will be able to play with your children in the car, while the car pays attention to other children playing on the street.

With artificial intelligence, a car changes its role in our lives. The future car I dream of will be a chauffeur who drives me safely wherever I want to go to, a secretary who reminds me what I need to do – where and

when, a butler who gets my groceries, a post box on wheels where couriers can deliver parcels, a private medical staff that keeps an eye on my vital functions and maybe it even becomes an empathetic companion throughout my day. Or in brief: a personal avatar. This companion can detect my mood and change the lighting and music – and conversation – to cheer me up! In a nutshell: AI will allow us to make our lives easier by collecting and interpreting huge amounts of data and by predicting situations of the future. The new technology offers a historic step in the relationship between man and machine.

At the end of the day we have to ask ourselves: What will be our role in the future? What social implications might this have? How can we keep control? And – maybe most importantly: How do we make sure that AI will share our values when making decisions? This is my personal motivation to roll out the beyond initiative. Over the last two years, we created an interdisciplinary network of experts from science, business and society. Together with experts from MIT Media Lab, Oxford University, Singularity University and with start-up entrepreneurs and business leaders. The mission of the beyond initiative is the use of AI for the benefit of society. Only by joining forces, we will minimize risks and seize the full potential of the technology. The beyond network helps us to create a deep understanding for this technology, to set up a broad dialogue and, to follow the goal of education and transparency. Algorithms must not remain a blackbox for those who are supposed to use them – otherwise people feel helpless.

In 1950, science fiction author Isaac Asimov wrote three laws for robots. Number one: No robot may harm a human being or allow harm by doing nothing. Number two: A robot must obey commands it gets from humans unless this would contradict law number one. Number three: A robot must secure its own existence as long as this does not contradict laws number one and two. The only thing is: When it comes to self-learning systems, there will not always be commands given by humans. And sometimes the algorithms will find the best solution by following their own learning experience. So today, we would rather try it this way: Number one: We will always handle artificial intelligence based on our human intelligence. Number two: Robots and human beings should not harm each other or allow harm by doing nothing.And number three: They should support each other according to their specific capabilities.

Take the future of work as example. My job is to take my whole human workforce at Audi onto this journey of digital transformation. This means to shape their skills of tomorrow. We will not only need more people to work on AI such as software engineers or data analysts. We will also need more people to focus on core capabilities that they are still better at than machines: creativity and empathy. We have to make sure technology serves society – and not the other way round. Then machines will follow the pace of people again. We want to use AI to secure jobs and to raise the standard of living. At Audi we know: Robots won't buy our cars! We have to make sure that our economic system stays in balance. We need a good employment and wealth for our whole economy!

I personally think that the future is not something that simply happens to us. And technical progress is also not something that simply happens to us. The future is something that we collectively shape by necessity. That is why I am honored to have had the chance to talk to you all at this summit. And to share a spirit of embracing change. Because in the end, what makes us human is our ability to reflect on how technology will drive progress. Where AI is leading us, will depend on us – or so to say on human intelligence.

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