**A Coffee with Ren III:**

**Digital Sovereignty, From Words To Action**

November 6, 2019

Shenzhen, China

**Stephen Engle:** Good afternoon, friends. My name is Stephen Engle. I am Chief North Asia Correspondent for Bloomberg Television. And thank you very much for joining us for this Coffee with Ren. Again, we also welcome the international media, domestic media, also some invited guests from various parts of the world. We'd also like to welcome to this simulcast, Bloomberg users who are on live-go on the Bloomberg terminal who will be listening around the world to this in-depth conversation, with Ren Zhengfei and the others here on the panel.

Let me introduce them before we get into it. Here on my left we have Kishore Mahbubani. He is the former President of the United Nations Security Council. He is also the founding dean of the Lee Kuan Yew School of Public Policy at the National University of Singapore, and he was with the Singapore Foreign Service for 33 years. Thank you very much for joining us, Kishore. Also Detlef Zuehlke, he is known as the spiritual father of the Smart Factory. Like to know a little bit more about what a spiritual father is of a smart factory. Many years I believe as well at Lufthansa, the German airline. He is also a professor emeritus of the Technical University of Kaiserslautern and the retired director of the German Research Center for Artificial Intelligence at Kaiserslautern. And of course, Ren Zhengfei, the CEO and founder of Huawei Technologies, and to his left, Liu Fei, head of 5G security research at Huawei, a scientist here for security at Huawei.

Now we are finally in the digital age, and 5G is finally upon us with China, just at the beginning of this month officially launching commercial services, and the world shall soon follow. 5G is definitely here. So my car and my coffee maker can finally talk to each other.

Billions of devices are going to be able to talk to each other. It's a platform in which commerce of the 21st century and beyond is going to be built, and, of course, we all know the geopolitical battle lines are going to be drawn if they have not already been drawn. Now as I've been promising, we can talk about every subject today for the next hour and a half. So, I want to invite all of you, when I open up the floor to questions, to please raise your hand and ask a question to our distinguished panelists. They are here for all of you.

**01 Stephen Engle: Now the US-China trade war of course is not just about soybeans and saving face. It raises many questions about sovereignty, digital sovereignty, which is the title of this panel, as well as survival. We have to decide who is going to survive, who is not going to, right? My first question to all of the panelists, and firstly, to Mr. Ren – what's most at stake in this new digital battleground?**

**Ren:** I think the digital economy will definitely go global because there aren't any geographical borders to restrict its development. This trend of globalization is irreversible, and there is no way to split up the global digital economy. Only through globalization can the digital economy create wealth. Only through globalization can we find a way to monetize the digital economy. Looking ahead, the digital society will grow faster and be bigger than the industrial society.

By that time, people will hold all different kinds of views. Standpoints will vary from country to country, from group to group. This is understandable. It will be impossible for us to predict the future development of an emerging technology, so there will definitely be disagreement in this regard. The breadth, depth, or brilliance of an emerging technology will be completely beyond our imagination. For example, when the train was invented, there was suspicion surrounding it. But how the train itself would develop was still predictable.

To us, how will this information society evolve in the future? It is beyond our wildest imagination, particular with the emergence of artificial intelligence (AI). This concept was proposed some 70 or 80 years ago. But why had it never been intensively applied until today? It's because we still don't have the underlying infrastructure in place yet. Such infrastructure includes supercomputers, ultra-large storage, and super-fast connections. Fiber has managed to connect the whole world, but fiber connections are not all that convenient. The emergence of 5G might accelerate AI's application and penetration. What will happen when AI is applied extensively? It's totally beyond my imagination. But I believe one thing is for sure: It will greatly boost productivity and help people create more wealth for the global community.

But of course, it will cause some problems, and some people have brought up problems such as how AI will replace jobs. But as long as we are able to increase the total wealth of a society, it will be beneficial to the society as a whole. A lot of these problems have solutions, and the problem of how to fairly distribute digital wealth to different countries is also something that can be addressed.

Today, the whole world is talking about these problems. Here at Huawei, we are also exploring solutions. As we still don't have an answer for this question, so we have invited two gurus here today to share their views with us. I myself don't have deep insights into technology, so I've brought an assistant with me today. This scientist will use her expertise to help me answer some sophisticated questions about technology. Thank you.

**02 Stephen Engle: Detlef, maybe I can come to you. Ren Zhengfei talked about increased productivity. You are an expert in automation in factories and smart factories. Can you quantify how much more productive this world is going to be? And who's going to be possibly left behind?**

**Detlef Zühlke:** Well, first of all, I cannot really quantify it. It's too early to bring numbers for a value here. But you're absolutely right. The world is changing in that sense. There are several views on this topic. On the one hand, some people say, 'Well, 5G is as fast as 4G.' Why is there so much trouble surrounding it? The more important view is that we have completely new challenges with 5G, because we now have the ability to send a lot of data with a low latency back and forth, and this offers us a high degree of mobility. So, our future systems will become more and more mobile. And this is not only true for our private lives, including for riding our bicycles, driving, or whatever else, but more for the factories.

5G is now a game-changer for industry. This makes it on the one hand interesting for industry; on the other hand, it brings a possible vulnerability against threats from the outside. And this is why we have this talk here and we have several problems around the world addressing this. And I think it's very important that we have a deep discussion on this and finally, we end up with trust so that everyone is happy with this new technology and can use it.

**03 Stephen Engle: Kishore, from a former diplomat's perspective, is there a huge trust deficit right now globally, which is exacerbated by the uncertainty that the trade war has caused and uncertainties surrounding the prospect of security violations, potentially in 5G?**

**Kishore Mahbubani:** Yes, there's a trust deficit, but the question is why. And here, there is a very remarkable coincidence. On the one hand, clearly we're seeing this remarkable technology arrive on the scene. 5G is going to transform the world, improving the human condition. But it arrives at a moment of history where we're entering a tremendous new geopolitical contest between the world's number one power, which today is the United States of America, and the world's number one emerging power, which is China. And as we know, this is a theme that stretches back thousands of years. Whenever an emerging power is about to become bigger than the number one power, there's a moment of extreme tension. We are walking towards that.

And in some ways, Huawei has become an accidental victim. It's caught in the crossfire between these two great powers. And while in theory, we should be rushing to embrace this new technology, this distrust between the two powers means that whenever China puts forward something that's positive, the US will see it as negative. And that's why, as you know, a major campaign has been launched against Huawei. It's a bit sad, because the world may be deprived of the wonders of this new technology, because of these geopolitical competition. But I hope, after our discussion today, we will try to find ways and means of building more trust between these two powers, so that at the end of the day, new technologies like the one being produced here today at Huawei can actually continue to help the world improve.

**04 Stephen Engle: Liu Fei, you're a scientist. You are an expert on security. Are those fears unwarranted? There are many worries that too few carriers and too few vendors have channels that basically move all of our data and all of our sensitive information and, potentially, put sovereign nations at risks.**

**Liu Fei:** I agree with you. We only have a few carriers and vendors out there and still have a huge responsibility to guarantee the security of data, hardware, and software. So this is a very difficult task. But we are only one part of the telecom value chain. We only provide equipment. The whole industry needs to fully comply with the regulatory requirements of every country and be able to meet the needs of users.

The security of the whole network goes both from end to end and throughout the lifecycle. We are doing our job to ensure security every day. As security researchers, this is what we do every day to achieve higher levels of security.

**05 Stephen Engle: We all promised that we would get right to the heart of the matter. We are going to do that. I have to put out a disclaimer as the only American on this panel. Bloomberg Television and Bloomberg are impartial, so my questions are not born of any bias. I have to ask directly about some of the accusations that the United States and others have made against Huawei and potential backdoors and security threats. Mr. Ren, can you again categorically deny that there are any built-in loopholes or backdoors in your equipment? You told me I can ask you anything.**

**Ren:** Yes, please feel free to ask me anything. Information security will always be a very important issue. As long as there is information, this issue will exist. But information security is a relative rather than an absolute concept. For example, currently it would take a supercomputer hundreds of thousands of years to crack the most secure encryption key in the world. However, when a quantum computer is developed, this will be doable in a matter of seconds.

Many people are commending blockchain as a great technology, but its encryption may be quickly cracked by quantum computers. If there are counterfeit banknotes, their impact would be 100 euros or US dollars or several hundred euros or US dollars. But with digital currency fraud, the amount that will be at stake is unknown. It could amount to billions of dollars.

Information security and encryption issues will be around for a long time. Can we address these issues using technology? I think, ultimately, they need to be addressed with laws and regulations. We all know that fake banknotes cannot widely circulate in the market. Why? Because people who use them will get caught. The police will track down the sources, and the people who make them will be put in prison. So fake banknotes won't widely circulate in the market since the law prevents this from happening, and we can feel good about the security of banknotes. Information security is a technical issue, but we also need to rely on the law instead of technology to ensure information security. I don't think we should blame all of our security issues on technology, just like carmakers should not have to take the blame for car crashes.

Huawei is just an equipment manufacturer, and it's our responsibility to make sure that what we produce and sell is secure. We can make this commitment to governments around the world. However, just like selling cars, after our equipment is sold to carriers, it's the carriers who manage the data on their equipment, and the data must be managed in strict accordance with the laws of relevant sovereign states. We abide by all of the laws of the countries where we operate. This is how we ensure information is secure and reliable. At Huawei, we have two responsibilities. First, we will never do anything that is out of line. Second, we support the oversight of all governments in regards to security.

**06 Stephen Engle: How do we then reconcile the fact that there are concerns out there? Whether it's Chinese or American concerns about trustworthiness. I know the German government is looking at their security catalog and possibly putting in a test of trustworthiness. Is that necessary? Or is that imperative because of the amount of data that is being transferred around the world and will be transferred around the world? Data is now said to be the new oil, so it's sensitive and there are sovereignty issues.**

**Detlef Zuehlke:** You are absolutely right. I think we are discussing all these because we recognize the value of data. This is why we look for security issues in that specific case. On the other side, I think we are looking now into the future and we see just one side of the problem. We always had security problems. We have security problems each day, with Windows for example, with browsers. So, one can attack all systems already and especially those hackers from states around the world which are highly equipped with knowledge to intrude our systems. So, what we're discussing here is just to ease or just to prevent such security problems from a new technology coming up. This is necessary but also I think in the future we will always have to face this situation that somebody tries to get into the systems – not only related to the Huawei equipment but to the complete system of hard- and software and everything else what is there. So, we should always see the complete system when we want to improve the security of the system.

On the other side, we now address new application fields where the vulnerability is much higher and perhaps much more dangerous. Like in autonomous cars or in telemedicine applications, for example, we require a much higher level of security than perhaps just when exchanging personal data with Google or Facebook or something like this. So, this is why we must have this discussion and this is also why we have to have these rules which we developed in Germany, and which we hopefully would be also applied all over Europe.

So, let's wait for it. I think this will help us to develop trust into this technology. But trust also needs checking the compliance with the rules given permanently.

**Stephen Engle: Kishore, do you believe that there needs to be and it's possible to create global standards?**

**Kishore Mahbubani:** Yes, but I think it's important to understand that this is not a technical discussion. What we're having is a political discussion. And, for example, you're right, there have been allegations that Huawei, through its equipment, is creating a backdoor, and through the backdoor, the Chinese intelligence agencies can go in and gather information. That's one allegation that is made. Like you, I'll try to be fair to both America and China, and it's also a fact, we know this, and what's known to us all is this: The National Security Agency of the United States can listen to every phone conversation in the world. It's public information now.

So, clearly you have, you know, not just one power that may be spying on countries, lots and lots of powers are spying. So, if at the end of the day, that's the core issue, then frankly, the best way to resolve this is not to have a headlong clash between the United States and China, which is what's happening now. We should try to have a kind of global discussion. And I, as you know, having served as ambassador to the UN for 10 years, actually believe that multilateral rules and processes are the best way to resolve this and the best way is to engage the whole world in the discussion. Because the whole world, all 7.5 billion people, are going to be affected by these rules and regulations and the consequences.

I want to mention here that I believe actually that Europe has a very critical role to play here, because Europe has got the advantage on the one hand of clearly being trusted by the United States, as many European states are allies of the United States. But on the other hand, Europe is big enough and strong enough to, in a sense, pass independent judgments. I'm actually quite impressed that even though Australia and New Zealand have all joined the United States and said 'no, no, no' to Huawei, Germany is still open and Germany is saying 'yes, let's see whether this can work or not.' But if we can all agree on a set of rules on what we can or cannot do with this technology, let's all abide by these rules and we'll have a better world. I think it can be done.

But at the same time, there's one hitch about multilateral rules. It ties all countries, including the most powerful countries like America and China. They have to be bound by these multilateral rules too. That's why the United States is a bit wary of these multilateral rules and processes. Even though I actually believe that it would be in the long-term interest of the United States to strengthen these multilateral rules.

**Stephen Engle:** We've seen the undermining of these multilateral bodies, whether it is the World Trade Organization or others, by current administrations, which shall go nameless. But the end result of this kind of protectionist or super competitiveness in 5G is a bifurcation of the next evolution of the Internet. You can have a Western Internet, and you can have a Chinese Internet. But it's very difficult to establish a global body for privacy, standards, and data protection. Would you agree?

**Liu:** I think we cannot allow a bifurcation of the Internet. Global standards are very important. During the process of data flows, we need to have the same protocols. But different services have different requirements. This is like you and me, who have different tastes when it comes to food, houses, or colors. So, we cannot make unified standards for all applications. The same is true for security. We need to make connections secure based on global standards, but we can provide diversified and personalized security solutions for different service scenarios.

**07 Stephen Engle: Mr. Ren, some in Europe, including under this GDPR,** **General Data Protection Regulation that was enacted in May 2018, seem to be calling to avoid** **monoculturalism on equipment purchases, on gear. So, not to put all the eggs in one basket, but to have one particular vendor, because that could occur, even if it's not currently a fact, there is at least the perception that there could be malfeasance going on. What are your main strategies when you're trying to sell gear to a particular country and they are saying, "No. We're going to buy from many different vendors, not one," even though you might be the cheapest?**

**Ren:** We believe the German government and parliament will choose the policies that are best for the German public. We also believe Germany will discuss and analyze the situation based on facts and evidence, and make significant decisions that are in the country's own best interests. We understand that the German government wants multiple vendors to participate in network construction. If there was a wall built with bricks that came from multiple countries like the US, Japan, China, and some Arab countries, and those bricks made by different countries were placed in parallel to thicken the wall, then if an attack destroyed a brick, it might not be able to destroy another brick behind it, and the wall wouldn't be brought down. This is why I support the German system favoring multiple vendors. It helps ensure cyber security.

Germany has released their proposal concerning digital sovereignty. I think the proposal is reasonable. When something new emerges, there is always someone who is the first to figure it out. We believe we live in an open society, but certain protections are required. Germany has proposed that data should remain within national borders and proposed this idea of digital sovereignty.

In the past, we focused on physical boundaries, or what we call borders. Anything inside those borders, the land, the crops on the land, and mines below, they all belong to owners inside those borders. However, unlike physical assets, digital assets aren't bound by borders. Therefore, how will we allocate these digital assets? How will we determine which country should or should not benefit from them, and exactly how much each country should benefit? We need to discuss these issues. Discussion doesn't push us backward. We should work together on these issues. Germany has proposed a solution that treats multiple vendors equally. This morning, Professor Zuehlke told me that security means following rules. I was impressed. We operate in different countries, and we need to comply with regulations in those countries. Different countries have different regulations, and compliance is a must wherever we operate. Otherwise, we wouldn't have survived.

Germany has proposed an information network jointly built by multiple vendors, and that sovereign states should have the right to manage the information in that network. I agree with this idea.

**08 Stephen Engle: In the six months or so since the blacklist was released, how have you adapted and built your business and not necessarily relied on the United States?**

**Ren:** First of all, I would like to extend our gratitude to our US suppliers for their support and help over the past 30 years. We wouldn't have achieved what we have today without them. We are always willing to work with US suppliers to explore the future and serve humanity. We will always embrace globalization.

We are able to survive on our own even if US suppliers are not allowed to supply us because of the Entity List. We don't want to operate this way though, relying on only ourselves to survive. I don't support completely independent innovation or complete self-reliance. Given the current situation, we have to rely on ourselves, but this is just a short-term measure, not a long-term policy. Currently we don't see any problem in our development. I suggest we all meet again next year, and then we will be able to see whether Huawei is truly robust.

During the first half of this year, we hadn't been subject to any sanctions, so of course we developed fast. Because of that foundation, we continued developing well even after the sanctions were imposed. At this point, we have basically finished our transition over to different product versions that don't need US components. Next year will be our first complete year under US sanctions. If Huawei continues developing well over the course of the next year, it proves that we've overcome the risks and survived. Of course we want to remain a world leader in our field in the next three to five years, but we just haven't got a theoretical foundation powerful enough to ensure that. We are still adjusting and improving our capabilities. We hope we can still be a leader in the future.

The US sanctions have taught us a lesson and reminded us that we can't be complacent, and that we must work hard. After we doubled our efforts, we eventually found that our revenue and profits grew more than we had expected. We will make some reasonable adjustments so that our development will be more stable in the future.

**Kishore Mahbubani:** The decision on the Entity List you could say was a technical decision, but it was more of a political decision, wasn't it? As you know, I just finished a book on US-China relations.

**Stephen Engle:** This one *Has the West Lost It?.*

**Kishore Mahbubani:** No, no, no, that's my previous book. And the next one is *Has China Won?.* The decision to put Huawei on the Entity List was part of a broader, in a sense, geopolitical decision that was made by the United States. China is becoming too strong too quickly, and we should find ways and means to slow down China's rise. And there are some people in Washington, D.C., some policymakers, who genuinely believe that the best way to slow China's growth down is to have a kind of decoupling between the US and Chinese economies, because if you have a decoupling, the US, the stronger economy, will keep growing, and China, the weaker economy, will go down. That's the strategic calculations, I think, behind the Entity List. But I think those people who made that decision were very unwise. It's hard to imagine, if you look at where China has come from. In 1980, in purchasing power parity (PPP) terms, at that time, China's GNP was 10% that of the US. Today in PPP terms, its GNP bigger than the United States. So, having come such a long way, it's hard to believe that because you created an Entity List, China's growth is going to slow down. So, I think that was a strategic mistake on the part of policymakers in Washington, D.C. That's why I think they should reconsider their strategy, and ask themselves, 'What is really going to work in this new world? Will isolating China work? Or will cooperating with China work?'

Another critical thing is this: The rest of the world isn't going to be passive bystanders. They'll do their own calculations of what's in their interests. We toured Huawei laboratory this morning. There are amazing breakthroughs. The rest of the world wants to embrace them. I can't imagine the rest of the world walking away from Huawei or walking away from China because of a geopolitical decision made in Washington, D.C. That's why I hope through a discussion like this, people in Washington, D.C. will begin to think again. Is it wise to adopt this strategy? Why not try something else?

**Stephen Engle**: You seem to be dismissing the security concerns.

**Kishore Mahbubani:** Well, there may be security concerns, but why not discuss them openly? My understanding is that Huawei is ready to talk to the US and say 'ok, come to tell me what your concerns are and what can be done.' And why not, in a sense, have a three-way discussion between Europe, Huawei, and the United States? Then we can try to figure out what the real concerns are and what can be met. But remember my earlier point, we do know that the United States is also picking up all of the information. So it's not just the Chinese. The question is, why don't we agree on a common set of rules which will restrain all countries, including China and United States, equally?

**09 Stephen Engle: We'll talk about surveillance capitalism. It's already happening in the United States, whether it's Google or Microsoft mining your data. You take the box that you allow them to collect your data. Where is that data and how is that data used? You lose your individual digital sovereignty. But on the security front, I want to bring you back in, Detlef and Liu. When we're talking about the robustness of security in building, say, factories, we know 5G will create this platform for critical industries to communicate and to be more efficient, whether it's energy, transportation, banking, or other very critical sovereign interest industries. When you say setting up a smart factory on a 5G network in a critical industry, how do you make it safe?**

**Detlef Zuehlke:** Look into our airplanes. You need redundancy to reduce risk. So this is I think the only way how you can convince the people of real security in high risk systems. So you will use 5G for primary communication, but you may have perhaps other technologies like cables as a redundancy. Nevertheless, also when you use cables you will face the same problems because you will always have the possibility of having security leaks somewhere.

We have learned how to deal with all these risks over the last couple of years. We have to accept that we will never have 100% security, and I'm pretty sure that we will also not have 100% security in the future. But we have to gather experiences with these new technologies. Now we're just at the edge of introducing 5G. I think, perhaps in two or three years, we'll have much more confidence about the level of security of the system. Not at 5G itself but in the complete environment of a factory, for example. And finally what I said already, we also need trust, we need rules, and we need the confidence when we collaborate.

So, we have a very close collaboration for years already with Huawei in Germany especially with their research lab in Munich. They do research in Germany. They send us their newest versions of their software and equipment, for example, so that we can test it in our factory testbed. By such an intensive collaboration we develop trust. And based on this trust we can make our decisions in the future and also support the decisions of our industrial partners as well. I think this is very important. Not just ban one company and say this one is bad and the other is good. But really try to develop the trust in the network of partners. I think this is one of the major advantages of our smart factory network with our 53 partners.

**Stephen Engle: Liu, from a security perspective, how do you generate that trust through verification and, you know, also opening up your equipment, whether it's open source, to show that there are no backdoors, and that your equipment cannot be hacked by other parties.**

**Liu:** All vendors are subject to equipment verifications, not just Huawei. Take Common Criteria, or CC, for example. It has set different security levels and each of the levels is clearly defined with regards to how to conduct evaluations and security audits at both the code and process levels. For production processes, for example, there are higher level security checks such as penetration testing. So the security requirements vary with each security level.

For example, the security level of the SIM card in your mobile phone can be EAL4+ or EAL5, which are high security levels. If carriers purchase SIM cards that reach EAL5 or even higher security level, subscribers like us won't need to worry about our SIM card being cloned. Even if it is stolen, our personal data won't leak. There are different levels of security, depending on what security level vendors need for their products and services. Nevertheless, all vendors need to pass verifications. In addition to CC, there are new security review schemes in the telecommunications industry such as GSMA's Network Equipment Security Assurance Scheme (NESAS) and 3GPP's SeCurity Assurance Specifications (SCAS). All equipment vendors must pass relevant verifications or reviews as long as users demand it.

**10 Stephen Engle: Ren, can you talk a little bit about the consumer side of the business and where you hope to take that business? I know you're going to have a folding phone coming out momentarily if that hasn't already hit the market. As part of this blacklist, your Mate 30 newest phone can't have the Google suite of applications. How does that affect your sales globally? And how does that spur you to do more R&D into your own operating system, HarmonyOS?**

**Ren:** It will definitely have an impact on us. Huawei and Google have an agreement, under which we have been working together to create a global ecosystem. Being cut off from US suppliers does have an impact on us, but our smartphones have other functions. There are many other features that are also valued by consumers. Though Google Mobile Services are not pre-installed in our Mate 30 smartphones, we have still sold these phones in large numbers. This shows that consumers value what we offer. The Entity List will have a greater impact on our overseas markets and we surely will see a certain degree of decline in our business there.

In order to fight back, we have brought together thousands of outstanding scientists, experts, and engineers who were originally tasked with exploring the future of our world. They are now fixing the holes in our bullet-riddled airplane to restore our competitive position. We are still working hard on that.

**Stephen Engle: Your president of corporate strategy told Bloomberg yesterday that your smartphone shipments in 2020 will grow 20% and that you could get up to 50% of the market share domestically in China for smartphones. Is this evidence that the Trump measures against Huawei are not working?**

**Ren:** I haven't been briefed on the 20% growth, but this year we will make 240 million to 250 million units and our Consumer Business Group hopes to see significant growth next year. It may not pan out, though. We don't know what will happen next year, so we cannot accurately predict the growth of our consumer business for the next year.

**Stephen Engle: Worst-case scenarios? Best-case scenarios?**

**Ren:** The worst-case scenario is what we have now. We are now in the most difficult period, and things will get better.

**11 Stephen Engle: Wilbur Ross, the US Commerce Secretary, told Bloomberg Television over this weekend that new licenses for Huawei could be forthcoming very soon. So we'll have to wait to see if that comes out. Now, maybe I'll open this up, the further conversation here. Because of the situation that Huawei finds itself in, whether it is with Android and some of the licensing there, or on the chipsets and software side, companies like Cadence and Synopsys, in the tech world right now, is there too much reliance on these US vendors? And will this, if it is a bifurcation, will it do the opposite, maybe spur domestic creation of these kinds of software and products?**

**Kishore Mahbubani:** I'm not the technical expert on this panel. But I do think that if you take a long-term view, is it wiser for the United States to have a China that it is completely independent of the United States, or a China that still continues to rely on the US in many areas? And the result of having a lack of strategy in Washington, D.C. is that the United States is pursuing a course of action that may be damaging to long-term American interests, if you see yourself as a long-term strategic player. So, it is actually in America's interest to see a continued Chinese dependence on American technology and American companies, because at the end of the day, that gives you some degree of leverage. If China is completely independent of the United States, you have little or no leverage. This is why I was actually very puzzled by the decision not to allow Google into Huawei phones. Because, if I may be politically incorrect, Google at the end of the day is an American Trojan horse. Because once you are hooked onto Google, you're now hooked onto an American information ecosystem. And that delivers to you not just American information, American values, American perspectives. You see the world through Google's eyes. And here is Huawei, offering the United States the opportunity to put an American Trojan horse into a Chinese phone and America is saying no. That doesn't make sense. It's not logical. But that lack of logic shows the lack of long-term strategic thinking. That's what puzzles me about the people in Washington, D.C. Because you're really shooting yourself in the foot when you say, "Don't take Google".

**Stephen Engle: Ren, you're smiling, I think you agree?**

**Ren:** I very much agree with what Mahbubani said. The US is at the top of the global tech sector, or let me put it this way: The US is at the top of Mount Everest – the highest mountain in the world – while China is lagging behind and is at the foot of the mountain. When the snow on the top of Mount Everest melts, the water will flow down the mountain and irrigate the crops and pasture at the foot of the mountain, and sustain the cattle and sheep. In Mahbubani's view, the melted water flowing down the mountain will be ultimately shared at the foot of the mountain. Mahbubani said there are values involved while I believe that there are at least interests at play. This is globalization, where all parties share benefits. If the US doesn't allow the water to flow down the mountain, people at the foot of the mountain may dig wells to irrigate their crops. In that case, no money will be paid to the US. When the US does not allow its companies to supply us, they will definitely be replaced by others. Other countries should work hard to replace the US in the supply chain. This is a great window of opportunity for them, but why are so many countries still taking this wait-and-see approach? They must take action now!

Whether China can take action is still an open question because China has a weak industrial foundation. Though it has a large industrial GDP, it is mostly made up of low-value-added products. This is not the case in Japan or Europe – Germany in particular. So why don't they dig wells to get the water now? If the water doesn't flow down Mount Everest, it will freeze because it is cold up there. Then Wall Street will not earn any money!

**Stephen Engle: Is that an agreement? Is there a surveillance dividend paying out to people mining the data and selling it onwards?**

**Detlef Zuehlke:** Actually not what I think. We are in some sort squeezed between these two fighters right now and we have to think how to get out. I think no one is really happy about what's developed over the last years. Ultimately the US industry, I guess, they are more for open borders. We were all benefiting from such open borders and open markets and the customers were able to buy the best phones around whatever they want, whether they buy an Apple phone, a Huawei phone, or a Samsung phone. Now, when we close these borders, we will all lose. So, we have only losers. My hope is that within the next week or so – and the first signs look quite nice and the stock market is going up, already – there will be an agreement between China and the US, and I hope that the agreement will also cover the problems about Huawei. Perhaps also setting up rules, checking these rules by independent organizations. I think as soon as we have such an agreement we can solve the real problems and not discuss this stuff.

**Stephen Engle: That phase-I agreement though might not include Huawei.**

**Detlef Zuehlke:** May be not in phase-I, but it's the beginning. So I think it's more a trade war, a nonsense trade war. And I think it's completely wrong to expect that it's easy to win a trade war. It's not. All will be the losers of a trade war. So we need a solution in order to prevent this. This is now especially before the elections in the US the right time to move forward into the direction of having an agreement that is beneficial to all parties. Perhaps not a final agreement in the next two weeks or so but to have a first agreement and everyone is recognizing we're moving again towards a collaboration. Everyone will benefit from this and this will be good for the world economy.

**12 Stephen Engle: Now Kishore, earlier today you asked a question directly to Ren about how to deal with perception and reality. There's a reality that they've been blacklisted but the perception is they are potentially a security threat. If I may ask your question to Ren Zhengfei, how do you combat that perception gap?**

**Ren:** People form their perceptions based on their own experiences. Over the last 30 years, Huawei has been committed to our value of being customer-centric. This has helped build up customers' trust in us. Even though the US has imposed harsh sanctions on us and US politicians have been flying around the world to pressure other countries to ban us, individual carriers continue to buy from us. This shows that, although the US uses its power to suppress us, the trust our customers have placed in us is even more powerful.

**Stephen Engle: Focus right now is on security. Where are you putting most R&D in and where should Huawei be putting most of its R&D on in security?**

**Liu Fei:** All of us security researchers are doing objective research on topics such as very detailed protocols and parameters. Standards organizations in the telecom industry are responsible for setting standards, such as 3GPP. They have a group focused on security called SA3. This group usually has about 60 delegates and has had seven meetings so far this year and last year. Sometimes, this group discusses 200 or more items at these meetings. As I just mentioned, we need to work together to find the best solution to solve security issues. All delegates in this group, equipment vendors, carriers, and us are all working very hard on this aspect. We are not politicians. We are focused on making the telecommunication network more secure.

**13 Stephen Engle: I want to ask you, generally speaking, how damaging to global trade and to the perception issues has this trade war between China and the US been? And Mr. Ren, are you an optimist or a pessimist that this can be resolved?**

**Ren:** I haven't looked that deeply into the China-US trade war or paid any attention to the news about it. We have been focused on mending the bullet holes in our airplane. We have virtually no sales in the US, so no matter how the trade war evolves it will not have an impact on us. We don't really care about how the trade war is solved. We are instead focused on customer demands and thinking about how to provide our customers with the best services during this difficult time.

We've actually seen an increase in customer visits by 69%. What is the main purpose for their visits? They come to see if we are still alive. First, they want to see if there are still employees taking the company shuttles to work in the morning and to home at the end of the day. Then they want to see whether our canteens are full during lunch and dinner time, and whether our employees still have enough money to buy good food. Then they want to see whether our production lines are still running 24/7 to meet customer demand. After customers visit and talk with us, they learn more about our current situation and come to understand that our products, even without US components, are very good. This encourages them to buy more goods from us. That is why the crisis hasn't ended up being what some people had imagined. Before they visit, customers don't fully believe us when we say everything is fine, but after their visits, they are more confident. "Why is Huawei strong enough to survive?" We have proven we can survive even without US components. Because we have dug many "wells" at the foot of the [Himalayas](https://www.youdao.com/w/the%20Himalayas/#keyfrom=E2Ctranslation), and used the water from the "wells" to irrigate our crops, we believe that we can survive. However, "digging wells" is not our ultimate purpose. We still hope there will be snow water coming down from [the Himalayas](https://www.youdao.com/w/the%20Himalayas/#keyfrom=E2Ctranslation), because the Yellow River and Yangtze River still need it to irrigate the crops in China. Counting on our own is only a short-term solution. In the long run, we want to work with the US to achieve shared success.

**14 Stephen Engle: If the United States does not issue licenses for you, you have 28% of global network gear sales, can you maintain that and build that without the United States or its allies? If it convinces Germany, the UK, and other Western economies not to purchase your gear, is 28% something that is sustainable? Or can you cope with that?**

**Ren:** I think these allies all need to consider their own national interests. The US adopts an America First policy, which means they will take all money for themselves while keeping other countries, say Germany, waiting. Germany won't just wait while the US is making money. I think every country has to consider their own national interests. It's impossible for them to blindly follow the US without considering their own national interests.

If the US does not supply us, we will figure it out. But I cannot tell you the details until the time is right. I cannot tell you at the moment because I'm not authorized to do so. So, when I am, you can come and interview me again, and I will tell you.

**Kishore Mahbubani:** On the trade war, I think it's important to understand, as I said at the beginning, that the trade war is just one small part of a much larger picture of the geopolitical contest. You have the economic dimension, the political dimension, the military dimension, the cultural dimension, and the primacy dimension. It's a multidimensional struggle. Each has got its own dynamic. I do agree with you that the likelihood is that there will be some kind of temporary truce or trade settlement between the US and China.

But that's not necessarily driven by reason and logic. It's driven by the political logic of the fact that President Trump has to go for reelection in 2020. To go for reelection in 2020, he needs a good economy and a good stock market. To get a good stock market, he wants a good deal for the US. That's the kind of political logic that's driving this.

But your question, the larger long-term question is whether Huawei can survive if indeed the United States sustains its campaign and gets its allies to join it and so on and so forth? I'm sure, and I think Mr. Ren admitted this, it will create some shocks and difficulties for Huawei. But I cannot imagine China will allow Huawei to collapse in the face of a dedicated American onslaught. There's too much at stake here. So, clearly, a tremendous amount of resources would be poured to make sure that Huawei doesn't fail. Because at the end of the day, this is not just about Huawei, it's about the larger contest going on between the two. And Huawei, in some ways, unfortunately, I feel like it's a chicken caught between two elephants. Here are the two elephants jostling and this chicken is trying to run around and get away from the two elephants. So, I wish Mr. Ren success, but I did tell him that he should be careful. These two elephants are jostling a lot. And Huawei has got to be agile and careful as it manages a very difficult environment.

**Detlef Zuehlke:** Well, I think it's not only a threat for Huawei, it's also a threat for the worldwide economy. Because when the market leader and so their equipment is no longer available, the others will not be able to bring their products on the market to serve the market demand. Nokia and Ericsson are too small to take over all supplies for the world market. So we will not have enough equipment to build up 5G networks over the next years. This will deeply influence our economy. So I think this will be really a "Black Friday" again, if such a thing will come up.

**Stephen Engle: It's more than the issue of cost. They're more scalable and cheaper. For some of the regional carriers in the US and elsewhere, they've relied on more affordable equipment.**

**15 Audience: I am from Munich Germany, from a company doing artificial intelligence. First of all thank you for having us here and also your interesting talk about the two elephants. Very impressive. I have a bit of an old-fashioned question. You are sitting in front of a wall of books. You're writing the book of the future, but what old books would you read to do your strategic deep thinking?**

**Kishore Mahbubani:** I'll tell you what book I would read. Apart from this book [*Has the West Lost It?*], I would read Machiavelli's *The Prince*, because we are in the middle of a remarkably complex, and long-term competition between two great powers. And managing such situations, having been a student of geopolitics for 48 years now, there's a certain logic in geopolitics. You can sometimes predict things that are happening. Because it's the logical thing that could happen. That's why it's important to understand that geopolitics has been around a long time. A man who actually understood the wisdom of geopolitics very well was Machiavelli. And even though many European leaders deny that they have read it, if you go to their bedrooms, underneath the pillow, you will likely find Machiavelli's *The Prince*.

The answer to my question: Everyone thinks the answer to 'has the West lost it?' is yes. The answer is no, the West has not lost it, or more accurately, not yet. I suggest that we are entering a new era of human history and this is staggering. Very briefly, from year 1 to year 1820, for the last 2,000 years, the two largest economies in the world were also those of China and India. It's only in the last 200 years that Europe and America have taken off. So, the past 200 years of world history, when you view them against the backdrop of 2,000 years, have been a major historical aberration. Now all aberrations are coming to a natural end. So it's perfectly natural to see the return of China and India.

When this happens, it's important for the West to adjust strategically to this new environment. So that's why, in the book, I suggest what I call a "3M" solution. Minimalist: the West should interfere less in other countries; Multilateralist: which is what I have been emphasizing, using the global multilateral system in the UN; and the third "M" is Machiavellian.

**16 Audience: Mr. Ren, you've talked about licensing Huawei's 5G technology to American companies. There are reports saying that Huawei has started negotiations with many companies on this. Has there been any progress? How much will it cost for an American company to get this license, and when will you announce the result?**

**Ren:** So far, no American company has started to negotiate this with us. We've talked about this with some intermediary agents, but they cannot make decisions for big American companies. This is a very big decision, and also a very difficult one. Big companies must think about it very carefully. When there is a suitable American company that wants to discuss with us, we will find an investment bank as the agent to help us negotiate contract terms and the details of the license, but there's no progress to speak of for now.

**17 Audience: In a recent interview, you said that you had never used your veto right. Based on Huawei's history and the current situation, under what circumstances would you exercise this right to veto a decision by your team? To put it another way, we know that you believe in the philosophy of *huidu*. But I believe that you must have your own red lines. Like I observed just now, every time the host asked a sharp question, you never answered it directly, but talked about it in a flexible way. But in the end, you always firmly stated your own opinion and answer. So given Huawei's current situation, what would be a red-line issue for you?**

**Ren:** My media manager is sitting right there. She will give me gestures to tell me what I can say and what I can't. Although I have the veto right at Huawei, it is actually a Sword of Damocles hanging over managers' heads. This sword must be used very carefully, as it has the potential to badly hurt many people.

So I always communicate with my colleagues when I have opinions. When we communicate, they can oppose me and refuse to accept my opinions. There are many posts criticizing me in our Xinsheng Community online forum. Huawei's Blue Team, an adversarial wargame team within the company, once wrote an article called *The Ten Sins of Ren Zhengfei*. After I read this article, I posted it to the Xinsheng Community right away. It was a very good article, so why not share it with all our employees?

The one-vote veto right cannot be used casually. This right was set to expire at the end of 2018, after which I would no longer be able to use it, and our executives could manage the company based on their respective authority. However, some events outside the company made us aware of the risk that a vote by all employees might end up accidentally setting the company down the wrong path. We must prevent this risk through an appropriate mechanism. So we decided to keep my veto right.

This veto right can be passed down, but not to any of my family members. Instead, it will be passed down to a Core Elite Group consisting of seven people who will be elected from former board members, supervisory board members, and senior executives. They will exercise the veto right together and can only serve limited terms. They cannot serve in the group for a long time because they would be quite elderly then. They cannot exercise the veto right if they are not of sound mind, either. In short, this veto right will not be easily exercised, but its very existence will ensure a balance in the company's internal management. So generally speaking, we have a sound management system.

**Stephen Engle: You're not hinting at retirement, are you?**

**Ren:** No, I'm not hinting at that.

**18 Audience: New Zealand is a very small country, but we're going through a very difficult period, because the government of New Zealand has decided that 5G is not on their agenda and not acceptable, which is very disappointing I have to say. My question for Mr. Ren is simple. It's not Machiavellian. It's more Marcus Aurelius. Why doesn't Mr. Ren speak directly to Trump? Trump is a bully and it seems to me that bullies actually can be confronted face to face better than negotiations in secret rooms. Why don't you just go to Washington and have it out?**

**Ren:** We've lent three 5G base stations to help broadcast a sailing competition in New Zealand. Later, our PR department will give everyone a CD. This CD is a recording of the performances at China's National Day Evening Gala, which involved about 60,000 performers. The filming and broadcast of these fast-changing performances went off without any freezing or smearing. You all work in the media sector, so you'll know that 5G's low latency is also of great significance to the media.

As for having a conversation with Trump, I don't have any channels to do that. I don't know his phone number, and I don't know how to contact him. Of course, if you can help me to contact him, I'd really appreciate that.

**Stephen Engle: Would you meet him and talk to him?**

**Ren:** Of course.

**Stephen Engle: Donald Trump, if you're on live, go right on Bloomberg.**

**Ren:** He has a big airplane and can fly to China anytime from anywhere. I don't have that. My airplane is made of paper, and it may fall down when it rains.

**19 Audience: A US institution recently said that China's 5G dominance could lead to an Internet split with the US. The moderator just expressed similar views. This US institution also observed that the rise of companies like Huawei has increased the reliance of their Western allies on Chinese services, and that this could cause an increasing number of security threats. As 5G commercialization gathers steam, the US has become more anxious and felt more pressured about the need to vie for 5G leadership. Will this create new pressure on Huawei in terms of securing new 5G orders? Just now you kept saying that Huawei has been patching up the holes in its airplane. Which holes are still not patched? What's your opinion about the split of the Internet?**

**Ren:** The role of 5G has been exaggerated. In my opinion, 5G is like a tiny toolbox, but some people portray it as if it's an atomic bomb or a global threat. I don't think this is the case.

Our 5G technologies are based on a math paper released 10 years ago by Turkish professor Erdal Arikan. Once we found out about it, we had several thousand experts, scientists, and engineers analyze it. During this period, the US was doing the same thing, but instead they were analyzing a math paper published in the 1960s by a professor who had once taught Mr. Arikan.

In terms of 5G, we pursue joint development and friendly cooperation.

The US has chosen millimeter wave technology as their 5G standard. Compared to centimeter wave that we have chosen, millimeter wave has a much larger bandwidth. However, it also has some weaknesses. For example, its coverage is very short. The US didn't expect the 5G era to arrive so quickly, and they might have thought they could develop theories and technologies to fix the coverage problem for 6G. The reality is that 5G has created an industry in less than 10 years, and large-scale deployment has already started.

Huawei has chosen centimeter wave technology, which uses intermediate-frequency bands. In the past, when companies were determining which technologies to choose from, Huawei actually made a bet by choosing intermediate-frequency bands. Few other companies made the same choice.

Huawei chose centimeter wave, but we also worked on millimeter wave. Just two major technology groups predicted that centimeter wave would be the future, and surprisingly, we made the right bet. Millimeter wave technology won't see widespread use in the near future, and neither will 6G. Huawei is also a leader in 6G. We estimate that global 5G adoption will take 10 years. The bandwidth of 5G will be more than enough for its users, so it remains to be seen whether there will really be any need for a new cellular system.

In this 5G race, Huawei wasn't born a winner. We simply made our bet by developing technology along multiple paths. We bet on centimeter wave, which happened to be the right way.

China has allocated spectrum for 5G based on centimeter wave bands, and this is the best approach. Countries in the Middle East have followed in the footsteps of China in the way they have allocated their spectrum, and they are making aggressive investments in 5G. The Middle East may very well become the pinnacle of 5G.

During this process, though, we were not sure if we would succeed in the end. Sometimes we are a bit like a blind cat that has happened upon a dead mouse. Over the past three decades, we have been very fortunate to stay in touch with the times and meet the needs of society.

**20 Audience: China has a vision of being a cyber superpower and influencing governance norms, as well as forging these concepts overseas. Where do you place yourself on the spectrum of a free and open Internet and the China model which places restrictions on flow and infrastructure?**

**Ren:** First and foremost, I think the Internet has driven social progress. Many companies – Google, Facebook, Amazon, Microsoft, and Chinese Internet companies – have driven social progress and narrowed the digital gap. These days, even people who live in dense forests can access the Internet and stay connected with the rest of the world. We need to recognize the benefits the Internet has on our society.

During an interview I had yesterday with *The Wall Street Journal*, a journalist mentioned that she had visited my hometown and my childhood house. I told her it was not my childhood house. After China began implementing the reform and opening up policy, the local government allocated that house to my parents. The house that I really lived in during my childhood was even worse than that. She said the house she had seen was worn down, and the living conditions there were quite poor. Her opinion of my hometown is similar to how we now perceive some African countries, as the living conditions there are often quite poor.

Let me tell you this: When I was young, what I wanted most was to eat a steamed bun. At that time, we didn't know what the outside world was like. Nowadays, children living in rural areas can connect to the outside world. This is one of the many benefits the Internet has brought to us.

Having said that, the Internet has also, unfortunately, aided the spread of harmful content. All countries need to manage such content. Doing so will be good for young people and for social stability and development. If the Internet is left unregulated, it could easily cause problems. I think the Internet itself is neutral, and I haven't heard of the model you mentioned. What matters most is that people are encouraged to work hard and create more wealth. When people become better-off, they can afford to buy more cups of coffee and enjoy them. And as you have seen, there are many cafes on our campus.

I think the Internet has facilitated a lot of positive progress, and we should recognize that.

**Stephen Engle: I have talked to a lot of foreign companies that have done business in China. In June 2017 the Chinese government enacted the cyber security law that would basically require foreign companies and local companies to house their data on Chinese citizens domestically in China. Is that something that sends the wrong signal to the world that the government is not giving your digital sovereignty to the individual or to individual companies?**

**Ren:** We are not an Internet company, so we haven't paid particular attention to the rules and laws related to Internet companies. Different countries may have different understandings about this. I'm not in a position to comment on this matter.

**Liu:** As a communications network company, we focus on telecom infrastructure equipment. The data is handled at a different level, so we don't know how the data goes through the equipment or where it goes.

**Kishore Mahbubani:** The regulations in the cyber world are in a very early stage. No one quite knows how to manage them. If you want an ideal outcome, the ideal outcome is some kind of global multilateral understanding, but the global multilateral understanding, for example, an international convention, has to be negotiated among all 193 countries. And all 193 countries have to agree on the convention, and they have to abide by it, right? Here, as we know, the United States is the leader of the Internet by far. But the United States as we saw it, as a country, is reluctant to accept any kind of multilateral rules that will govern American institutions. Take Facebook for example. Facebook is selling political advertisements in the UK. If you listen to the TED talk by Carole Cadwalladr, you'll find Facebook advertisements led to Brexit in some ways. Now would the United States agree that this should stop, and that you should have global regulations of such things? That's the critical step we have to take. We have to all agree that perhaps given the damage of the influence that these organizations have, they should be subject to global multilateral regulations. And if we can take that first step, it's actually a big step forward.

**Detlef Zuehlke:** We have the same discussions at home in Germany as well. There is an interest from industry to keep their data in the meantime on European servers. There was just a group founded in Germany and also supported by the government, to have such a German cloud available. The only big difference is it's not enforced by our government but it's just an offer to the industry and the industry can decide on this. Concerning the other part of this discussion, I think as long as we have a democratic government, it's completely impossible to block communication like the Internet. So, this will not work. I'm also sure that perhaps in 20 years, we will have a different situation here in China as well, as people get wealthier and the telecommunication is getting better and becomes more uncontrollable.

**21 Audience: I'm a professor of Global Family Business from Munich, Germany. I help families navigate complex times, when they go through tragic or complicated times like almost losing their legacy, which may happen in this case. Maybe an observation and suggestion. In Machiavellian terms, if the prince cannot speak to the prince, send the children to speak to each other. They might have different interests. In the case of the President of the United States, the children run the business. You also have children that run the business. Maybe they can find common terms. And in conclusion to that, what would be your advice, Ren, for all the young people in the room, how should they position themselves as the next generation? What should they read? What should they learn? And how should they think about the world based on your incredible business legacy that you've built? Thank you.**

**Ren:** First of all, I think young people should keep an open mind. They are in a much better position than we were at their age. When we were young, we could only access the information in libraries when we were in university. At my high school, we didn't even have a library. Young people today have access to all kinds of resources online. So I think they should first keep an open mind.

Second, they should learn how to cooperate with others. Individuals cannot achieve much alone, so we need cooperation to advance together.

Third, young people should persevere and work hard. Don't be too clever, jumping from one idea to another without ever finishing anything. In the end, you'll end up squandering your youth without achieving anything. If you are persistent and dedicate yourself to do solid work on one thing, then you'll probably succeed. Don't think you're talented in all areas, and spend too much energy over here and over there. That makes it difficult to achieve any real success.

**Stephen Engle: Maybe you should go to Hong Kong and give a speech to the children there. That's for another discussion. Ladies and gentlemen, if you could put your hands together for Ren Zhengfei and the distinguished panelists.**