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5G Inspiring the Future: Building a Fully Connected, Intelligent World

Nov 26, 2018 | By Ken Hu, Huawei Rotating Chairman

The 9th Global Mobile Broadband Forum – "5G Inspiring the Future" kicked off in London on the November 20, 2018, gathering more than 2,200 leaders and analysts from mobile telecom operators, vertical industries, and standards organizations around the world. At the event, Huawei's Rotating Chairman, Ken Hu, pointed out, "5G will start a technology revolution. It will bring new power to all ICT technologies, and trigger sweeping changes in business. There will be new opportunities the likes of which we've never seen."

Here is the full speech script:



Good morning everyone.

Welcome to London, and welcome back to the Mobile Broadband Forum. As always, thanks to GSMA and GTI for hosting this event again with us.

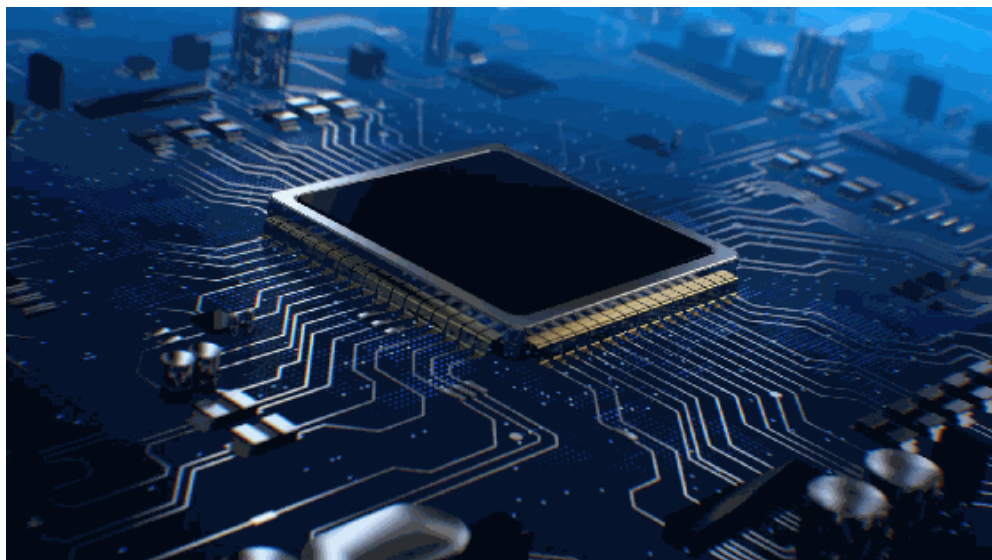
The theme of this year's forum is "5G inspiring the future."

So what does the future of 5G look like? Today, I would like to share our insight into the changes 5G will bring, and the actions we should take to make the most of it.

First, allow me to give you an update on some of the progress we have made since last year's Mobile Broadband Forum.

In 2016, we announced our vision for the future intelligent world, where all things are connected, all things are sensing, and all things are intelligent.

We have been working hard to realize this vision.



Artificial Intelligence – Last month, we announced our full-stack artificial intelligence solution for all scenarios. We doubled the computing power of AI chipsets. Moving forward, our efforts will focus on making AI easy to use and more accessible.

To make AI easy to use, we will speed up model training from several months to a couple of minutes, even seconds.

For accessible AI, we want to make computing power more affordable. Right now, computing power is still very expensive. It is a huge bottleneck for AI applications.

Our goal is to bring AI everywhere.

Sensors – We are making devices sense more and do more. Last month, we released our latest smartphone, the Mate 20. Let's have a look at what it can do.

It has more than 10 sensors in the camera, and a dual AI chipset. So you can take a photo of your food and tell how many calories it has.

With more sensors and data, we can better understand the world around us.



As for connectivity, we have reached many exciting new milestones with 5G.

Today, there are 154 carriers in 66 countries that are actively testing 5G technology, including field tests. According to GSMA, we will see 5G deployment in 110 markets by 2025.

Commercial deployment is charging forward, and large-scale shipment has begun. At Huawei alone, we have already shipped more than 10,000 5G base stations to Europe, the Middle East, and Korea.

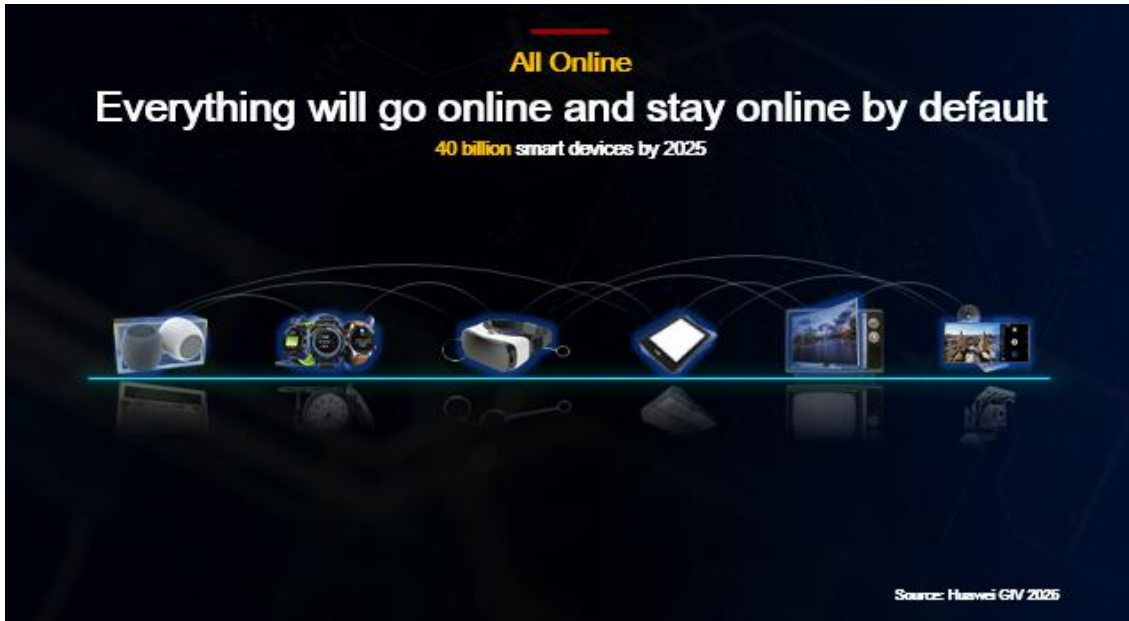
5G will start a technology revolution. It will bring new power to ICT, and trigger many changes in technology and business.

We have identified 5 revolutionary changes that 5G will bring.

First, with 5G, we will go beyond pipe. Connectivity will become a platform. Pipe has bottlenecks and limitations, but platforms can extend everywhere.

Think about swimming. In a pool, space is limited. You have to stay in your own lane, and it's very crowded.

With 5G, we will have the freedom of swimming in the ocean.



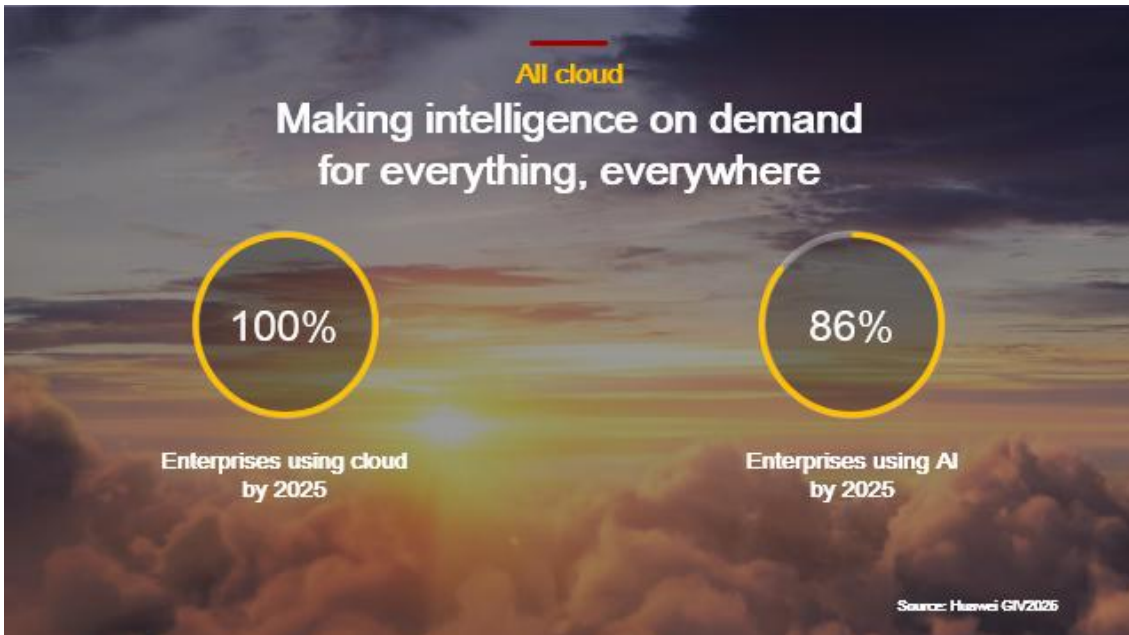
With this connectivity platform provided by 5G, everything will be online. Right now, most things are offline by default, and most electronic devices are not connected with each other. For example, we have to actively connect smart home appliances and wearable devices. When you turn off your TV, it goes offline.

With 5G, being online will become the default for all things.

This is a big trend. In the future, it will be difficult to NOT be online.

When all things go online, **going cloud** is the next step.

With 5G, there will be real-time transfer speeds between cloud and device, with no lag at all. Therefore, the response time for computation and storage will be the same for both of them.



In an all-cloud environment, we will have massive computing power everywhere we need it. At the same time, with the development of AI chipsets, AI can be embedded at all levels, including devices, edge, and the cloud.

They will work together seamlessly to bring intelligence to everyone, everywhere, on demand.

Going all cloud is an important trend that will enable us to develop new services and applications. Let me give you an example.



Earlier I mentioned the Mate 20. It's not just a smartphone. With cloud, we can make it as powerful as some of the best PCs on the market.

You can use it as a **workstation**.

You can use it to **render graphics**.

You can even use it for **high-end, PC gaming**.

Incredible, right? We support these applications with GPU and CPU power in the cloud. If you want, you can give them a try in the convention center.

In an all-cloud environment, by combining the strengths of cloud, 5G, and smart devices, we can maximize the value of all three.

We call this model "Cloud X," and we believe this market has huge growth potential.



5G will redefine devices too. We will see many new form factors, and we can expect serious disruptions to existing electronic devices.

In the future, the hardware and software of devices will be more structured and modular. So we can easily add new capabilities to anything, like connectivity, sight, hearing, touch, language, perception, and even cognition.

We can stack new features, just like LEGOs.

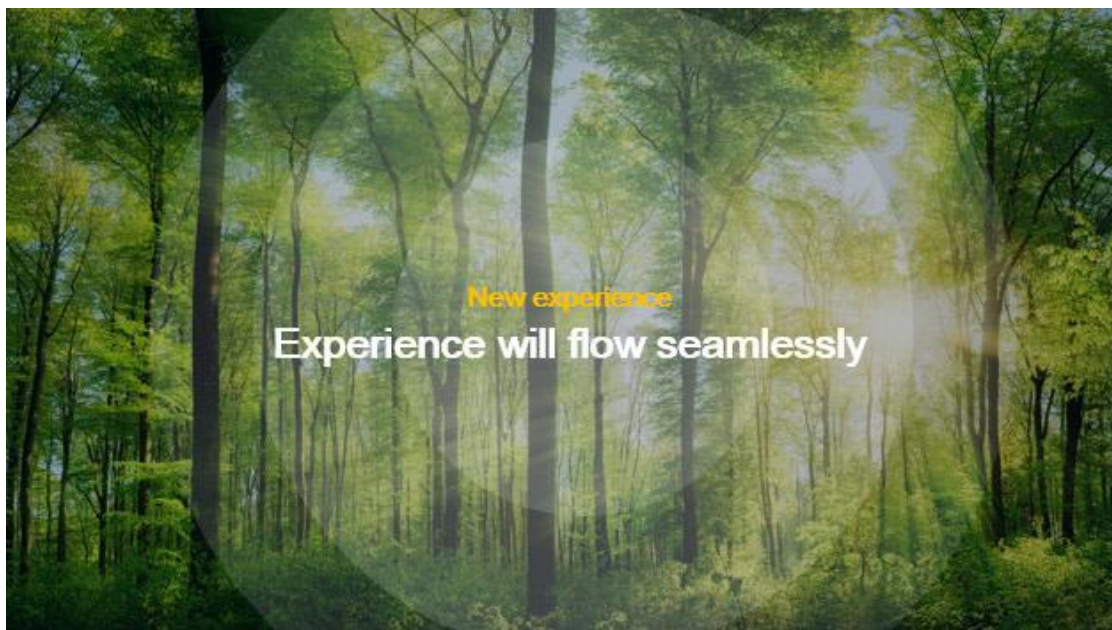
So what does the future of devices look like?

Future devices should be able to **stay online all the time.**

They will be smarter, meaning they will interact with users and the environment in a more natural way.

They will understand us better, and know what we want.

And with the support of AI across devices, network, and the cloud, our devices will go from plug & play to **plug & think**



Today, with the limitations of existing networks and devices, our online experience is fragmented.

For example, when you go from your home, to the office, to the airport, or to your car, your online experience does not travel with you.

Now imagine this: With a single digital ID, wherever you go, the network will travel with you. Your content and services will travel with you. And your experience will flow seamlessly.

This is 5G.

In fact, this kind of seamless experience is fundamental to converging the digital world and the physical world.

These are the changes we will see. Now I would like to talk more about 5G on the network side.

From all angles, 5G is ready.

It is ready to use: Standards are ready, and field test results are solid. Chipsets, devices, network equipment, and end-to-end solutions are all ready. In countries like Korea and UK, commercial deployment has already started.

5G is affordable: We have made significant progress to greatly reduce end-to-end costs, including smartphones and network equipment. Large-scale deployment will also help to make 5G more affordable up and down the value chain.

Most importantly, the demand is real.

Immediately, 5G can be deployed for WTTx. Currently, there are 230 WTTx networks around the world. They use 4G technology to connect more than 7.5 million homes. The business model is mature, and it is ready for 5G.

In the near future, we will also have more Cloud X applications such as **Cloud PC, cloud gaming, and cloud VR/AR**. Companies like Microsoft, Ubisoft, and EA are already working on these.

Of course, there are still some barriers to 5G deployment. In particular, there are two main challenges.

First, carriers lack spectrum. Governments need to harmonize and release sufficient spectrum resources for 5G deployment, with continuous bands and large-bandwidth. And we also hope that the price per megahertz can be lower than 4G.

For carriers, in addition to C-band, remember that all bands – including 2.3 and 2.6 gigahertz – can be used for 5G.

Second, carriers need more support with site resources. The cost of site resources is still very expensive. Site rental accounts for 60% to 80% of the total cost of network deployment. If governments can open up more public resources for site deployment, and can allow carriers to share the infrastructure of other public utilities, that will greatly help to cut costs and speed up deployment.

We believe that 5G will make an important contribution to society. We hope that all stakeholders can come together to overcome these barriers.

At Huawei, we are working hard to make networks **stronger, simpler, more intelligent, and more secure.**

For example, we are improving coverage, capacity, and user experience to make 5G networks stronger.

We focus on site design and engineering to make sites simple and installation easy.

We are developing intelligent solutions on different levels, for both networks and sites, to take 5G networks from manual to autonomous. Just like self-driving cars.

And finally, security. Cyber security remains our top priority. We are glad to see that 5G standards for security are a huge improvement over 4G. That will help the whole industry make 5G a safe technology.

Moving forward, we believe that unified certification and verification systems like NESAS will be very helpful for the industry to deal with security issues independently and fairly.

My colleagues will talk more about these targets today and tomorrow.

We have been working with more and more carriers on 5G commercial deployment and trials.

We all know that deploying new networks isn't easy. We have to deal with many challenges in terms of the technology, resources, regulations, and business cases.

But at Huawei, we believe that innovation will make things easier. So we will continue to innovate on technology and business development.

We hope that, the more we innovate, the less you have to worry about. Our goal is to make 5G deployment as simple as possible for our customers.

Ladies and gentlemen:

We are working with all of you to bring digital to every person, home and organization for a fully connected, intelligent world.

5G offers a lot of new opportunities for all of us.

So I would like to leave you with one last thought. A quote from a great movie, and also from our friend, Mobile Man:

"If you build it, they will come."

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