Announcer: Ladies and gentlemen, please welcome CEA Industry Affairs Senior Vice President, Jason Oxman.

Jason: Good morning. I have the pleasure of introducing to you our next keynote speaker, Qualcomm Chairman and CEO, Dr. Paul Jacobs. Now Paul is the visionary leader of the company responsible for the advancement of a technology and an industry that has forever changed the world of consumer electronics. As you can see by walking around today's CES show floor, consumer electronics products today are increasingly mobile, and they're made smarter, more effective and more compelling with a wireless connection. Wireless technology is changing the way we communicate, work and live, from how we commute to how we compute, from advancements in healthcare, education and public safety, to the delivery of entertainment. Qualcomm has been at the forefront of the greatest advancements in wireless technology today.

With masters and doctorial degrees in computer science and electrical engineering and more than 35 patents in wireless technology to his name, Paul Jacobs not only inspires the company's spirit of innovation, he practices it. He's improved the clarity of speech on cell phones, commercialized the first smartphone, implemented the first true ap store and spearheaded the inclusion of mobile TV, GPS, email, web browsing, and games in wireless handsets. These efforts have helped to expand the concept of wireless devices from traditional categories such as mobile phones and laptops, into burgeoning product classifications, such as e-book readers and personal health devices. Qualcomm under Paul's leadership is being heard by more than just traditional wireless players, now everyone is listening.

As a world leader in next-generation technologies, Qualcomm is defining the future of wireless. Now no one is certain what tomorrow will bring, but Paul's track record suggests he has a pretty good idea of what a wirelessly connected world will look like.

Announcer: Ladies and gentlemen, please welcome Qualcomm's Chairman and Chief Executive Officer, Dr. Paul Jacobs.

Paul: Thanks Jason, _____. Well, good morning everybody, thanks for being here. Now I know Qualcomm is not exactly a household name. Maybe I should start off by saying, how many of you in the audience know who Qualcomm is? How many of you think we run a stadium? Seriously, good way to ask though is how many of you have a 3G cell phone because it's Qualcomm technology that's inside all of those 3G cell phones and our chips are in a large portion of those as well. Now why are here at CES to talk? We're here to talk about the convergence of wireless and consumer electronics, because it's happening in a big, big way right now.

Every consumer electronics device I can think of is better when it's connected to the network.

I mean you think about it, like your game machine. You want to be able to play with your friends and taunt them. Books, we all know about the Kindle, you download the books right away. Your camera, you take a picture and you upload it to your social networking site right away, your nav system. And think about the nav system in your car, right? You're like looking for a street and it's not even there because it's too old. Well, if it's networked, the maps are up to date, the points of interest are up to date, traffic might be on there, all sorts of stuff. So all these kinds of things are going to be better and much more useful when they're connected up to the network, and actually, also to each other.

So we believe that all these consumer electronics devices are going to end up being connected. And it's not all going to be connected over a cellular connection, that we're known for obviously, but we're also working on other radio technologies and they're going to connect up these things too. And you're going to be able to interact with these consumer electronics devices by – with the consumer electronics devices, things that are around you, all this stuff and it's going to happen through your phone.

So why is that going on? Well, over the years, with the size of the cell phone market, we've been putting a lot of research and development dollars and effort into getting these consumer electronics functions into the cell phone. So it's things like cameras, obviously, we all know about, video, email, games, GPS. The stuff's been really successful and it's all over the world, you have it in all your phones now.

Now those same chips now that we've put the consumer electronics devices and the functions into the cell phone, those chips are now going to go into the consumer electronics devices themselves. So we believe that consumer electronics devices are essentially going to be phones inside. I mean they'll look different, different shape, different sensors, different bundles, a little bit different software. Fundamentally, inside though, they're going to be cell phones I think.

And it's Qualcomm that's helping to drive that innovation. We started off as a small company of scientists and engineers and these were people who really helped develop digital communications theory. And we worked on a bunch of different projects in early days of the company, but I think the one that we're best known for is CDMA and that technology that I said that's inside every 3G cell phone. And I've got to tell you, wasn't so easy. In the early days, most people were pretty skeptical about the viability of this particular digital, wireless technology. And there was this Stanford University professor who used to say that

CMDA violated the laws of physics. And I've got to tell you, I'm a Cal grad. I tell that story everywhere!

Anyway, we persevered and we've built our business around developing an entire ecosystem of partners that could help commercialize CDMA for their partners that worked on the networks, worked on devices, applications, services. We really tried to take a unique approach with our technology. We decided to license it to virtually anyone who wanted to join in and compete in the wireless ecosystem. And I have to say, that idea worked. There are more than 170 companies that are using our 3G CDMA technology and building products based on 3G technology.

Our success is really measured by the success of our partners. And today, you're going to get a chance to hear from some of them. So I'm really excited to bring them on stage with me. And within Qualcomm, it's very cool, because we're very motivated by the fact, all the employees at Qualcomm know that with the scale of our partners and the number of chips that we ship, ideas that they have literally can go out and change the world. And you know, one of those things was data. As we developed CDMA in the early '90s, we believed that people were going to want to do more on their phone than just talk and send text messages. We realized that people would eventually want to use data in a major way.

So one of the things that we did very early on was put the internet protocols in there, TCP/IP into the phone. Now obviously with the growth of the internet, that turned out to be very instrumental, getting data onto the phone and getting us where we are today. Now as we were putting data into the mobile phone, one of the first things we did was put a browser into the phone. But then, back in 1998, we built the first CDMA smartphone. So this pdQ was the first smartphone supporting the Palm operating system. And I have to tell you, it wasn't exactly a commercial success, but it was a sign of things to come. And I showed this thing to a New York Times reporter at a conference. The guy's looking at it, he goes, "Well, that thing's phat." "Like, yeah, well, it's got a phone and a PDA inside it, we had to make it a little thick." "No, no, man, P-H-A-T fat." I'm thinking, well, I wasn't really hip back then, so I'm not sure I've come a long way, but the industry has come a long way. And it's really amazing to think of the choice and the scale and the speed of innovation that's happening in the market today.

So I've got some interesting facts for you now. So let's consider the number of mobile phones out there in the world today. If you laid the phones out like bricks – maybe this brick – laid phones out like bricks, the mobile devices that are currently in service could be used to build a wall that would exceed the length and height of the Great Wall of China, entirely out of mobile phones. That's pretty amazing. In terms of the number of mobile users, we're at approximately 900 million 3G subscribers and over 4 billion total wireless subscribers. And with that vision that we had, the phone is clearly becoming your computer. Smartphone

shipments are expected to exceed all computer shipments in 2011. But I'll tell you, the most important thing, the cell phone has become the most widespread platform human beings have ever created. The cell phone market is bigger than the market for radios, TVs and the internet and fixed telephones, obviously, so this is the biggest platform in the history of mankind. Pretty amazing.

And what have we been doing with that platform? Well, we've been working hard to make the phone the most personal device for computing, for entertainment, productivity and obviously for communications too. And we work with our partners to develop 3G devices that are actually selling as low as 20 bucks in an emerging market like India and we're working on the really high-end smartphones that are now the fastest growing category in the developed market.

And that user experience that you have on the phone, that's taken a big jump in the last few years. And there's really a lot of computing power that's getting put into mobile phones. And then we integrate really tightly between the hardware and the software and that's going to continue to have a major impact on the user experience.

And one of the things that we're doing to make this all work is we're supporting a really wide range of mobile operating systems today, including Android, Brew Mobile Platform, Linux, Series 60/Symbian, Windows Mobile and we enable another set of OSs and frameworks like RIM, Web/OS and LiMo. I'm actually happy to announce today that we're adding one more to the list. Chrome OS is going to be on our list of supported operating systems as Google moves to launch this new platform that they're targeting for later this year.

Now that support that we provide for multiple operating systems, we believe is really helping to drive industry growth and innovation. So what I want to do now is invite one of Qualcomm's close partners to the stage, HTC. We've been working with HTC for a really long time. They're a tremendous innovator in the wireless handset market and they've been doing this for awhile. And what's interesting about HTC is that they support many different operating systems on their phones, because they are trying to target different markets. So if you'd please join me in welcoming Peter Chou, the CEO of HTC.

Peter: Thanks Peter.

Paul: Thanks Peter for being here, appreciate it.

Peter: It's my honor to be here. So HTC-Qualcomm partnership has delivered some of the most innovative smartphone over the last decade. I really appreciate you and Qualcomm continue supporting us. Thank you.

Paul: Thanks for all your effort too, Peter, we love working with you.

Peter: So I was listening when you speak and I still remember that pdQ. So Paul and I actually working on at that time that pdQ and I always make fun of him that's a weapon, so that I can use this in a battlefield when you run out of bullets.

So anyway, we have two, we have demonstrate HTC's capability of making super smartphone like the Nexus One and hd2. When we talk to customers around the world, we saw an opportunity, a big opportunity to introduce an easier and more affordable smartphone, phones that have advanced capability like web browsing, social networking, emails with more affordable prices. So, we are working to bring smartphone to the masses.

Today, I would like to introduce HTC Smart. HTC Smart uses Qualcomm's Brew Mobile platform. Brew Mobile Platform give us a software and a hardware flexibility to build and design advanced phone with more affordable prices. HTC Smart has a friendly compact design with an intuitive user experience that is based on HTC Sense. HTC Sense put people at a center by creating a simpler and intuitive user experience. HTC Sense is centered on three core areas – make it mine, stay close, and discovery unexpected. One of the example of make it mine is a feature we call sense. Sense enable you to create different phones views for different parts of your life.

Another example of HTC Sense is stay close. In today's busy world, there are multiple way of communicating. We have phone calls, SMS, emails, social networking and they can be overwhelming. HTC Sense integrate all these information streams into one place, so you no longer have to go to different applications, so you can focus in on the who, not the how when you communicate. So now let's take a look at HTC Smart and some of the user experience.

VIDEO

Paul: Hey thanks, Peter, for being here, I really appreciate it and I appreciate all the work that you've put in.

Peter: Thank you.

Paul: Awesome.

Peter: Congratulation Paul for introducing Brew Mobile Platform.

Paul: Thanks Peter.

Peter: Thank you.

Paul: So in addition to HTC's support for the Brew Mobile Platform, AT&T just announced that they'll be supporting the platform as well. So we're really, really pleased to have these new partners coming into the Brew ecosystem.

So let's change, let's talk about the internet revolution. We have this vision that the wireless internet would fundamentally change the world and it was actually going to have a more profound impact on the world than the wired internet. And I think that's what's happening right now. There's all these app developers out there, they're bringing tremendous creativity to mobile devices. End result is a better internet experience. That's a big change from the early days of wireless, when there were only really a few vertically integrated companies and those companies were just – they were the ones who defined what went into a phone. It was kind of a closed system. And as a result then, there really were only a few people who could innovate. So what's changed? I mean why is there so much interest now in the mobile internet? It's because it's about entirely new possibilities. It's a change. It's the internet that you take with you and it's becoming more and more integrated into your life wherever you are. It's changing the internet from a sit-down experience to a carry-along experience. And that's something that's making it real-time, location aware, changing it into something that has a lot of context to it and makes it very personalized. So you personalize the things that you choose to access or the things or people that you allow to have information and access to you.

And one of the things that I think is a great example of this is this mobile commerce app. Yesterday we announced this new service called Swagg and it's going to be available in time for the next holiday season. What's Swagg do? Well, it lets us conduct all sorts of transactions on the go. So we can purchase and personalize gift cards, share them with our friends, exchange them for the stores that we want fast, better – we can use them to buy stuff wherever we are. Very cool. We can receive, we can redeem personalized offers. We can get our loyalty points, view those things, manage our favorite reward programs. We can do this all from the mobile device that you have with you. So it's pretty obvious to us that wireless is going to impact almost every aspect of our lives. It's going to be embedded into things that are all around you.

So if you think about it, like today, you feel connected to your friends and family and colleagues, not because you're talking to them all the time, but because you've got your phone and they have theirs, so you could talk to them. The same thing is going to be true with all this stuff that's around you, whether it's content associated with a location that you're at or services that you might have access to, or this ability to provide information back and forth to people that you meet on an ad-hoc basis. I mean today already you take your mobile device and you instantly

upload your vacation photos for sharing on a social networking site. So that's how the phones converge with the internet.

But convergence means also that other devices are getting wireless inside them. So we're seeing all sorts of new kinds of device categories come out. I mean obviously you all know about the e-readers and digital picture frames and laptops, smartbooks, cameras. I mean you look at a think like the Kindle that comes out, right? As 2009 drew to a close, Amazon announced that it had sold more e-books this Christmas season than it did printed books. Now that's a first in its history. What's interesting about that though is the people who got those e-books on their Kindle, they don't really think about the Kindle as a wireless device, right? It's just the way that they got their books. I mean the books just kind of showed up magically on the device. And we think that kind of magical experience is going to be in a lot of electronic devices.

Now one area where wireless connectivity is already having a huge impact is computing. I mean we all know this, right? I mean people are doing their computing, their email, their internet browsing, this kind of stuff on their mobile device. So we put a lot of effort into creating a new computing platform called Snapdragon. And there's great interest among our partners in Snapdragon. In fact, there are 15 different manufacturers with 40 different smartphone and smartbooks now in design. There are already some incredible smartphones in the market using Snapdragon. I mean Peter just showed you a couple. So you already know what you can do with your smartphone and the mobile internet, right? But imagine having all of that stuff, plus you have access to a rich high-def display and a keyboard that makes it easier to type and input information. I mean it's going to be a whole different way to access the mobile internet. So that's this category that we call smartbooks.

You take this really fast connection to the network, this always-on connectivity, this always-with-you experience, you have it all day long. That's the experience you have with your smartphone, now you give it a bigger screen, bigger keyboard, maybe a virtual keyboard, that's going to change things. So in 1998, that pdQ phone that I showed you earlier, that thing had a 16 megahertz processor that could execute 2.7 million instructions per second. With Snapdragon, we have a 1 gigahertz processor that can execute 2 billion instructions per second. And that's based on our first generation design. And like I said, that's the one that's already in some of the most powerful smartphones you can get today.

So this incredible increase in processing power is going to allow you to do a lot more things. Now these devices are very power efficient, so you're getting more compute power, but you can stay connected all day. And while some of this computation is being done in your device that you have in your hand, another trend, you're seeing an increasing amount of computation being done in the cloud.

So with this smartbook, you're going to have this great computing and internet experience anywhere you are.

So we got another partner. Here to tell us about the world's first smartbook is Lenovo CEO, Yuanqing Yang.

Yaunqing: Hi Paul.

Paul: Hi YY, thanks for being here.

Yaunqing: Thank you for inviting me on the stage. So Paul, I know this is your first CES keynote. So for me, it's the first time on this stage as well. Of course, you are talented showman, I'm not. But why am I standing here beside you? Because I think a new era is coming. Mobile internet era is coming. In this era, both of our companies could play a more important role. If we could play well together, we could win Oscar in this area…

Paul: I like that idea.

Yaunqing: …together. So why we think the traditional notebook will still play as a key role in the mobile internet age? But it can no longer fully satisfy people's needs. People want more smaller form factor devices, light and sleek. So they want a machine to be easy to connect to the network and even always on. And they want the devices tailored for the internet content, rather than for the office use. Just the word office sums(?) it.

So we need to extend the PCs reach. We believe two new categories are now emerging and we are become big businesses with hundreds of millions, or even billion units sold around the world. So you should be very happy with that.

Paul: We're happy with that.

Yaunqing: So they are the smartbook and the smartphone categories. So thanks to our cooperation. So now we have the best solution in these two categories. So this is Lenovo's first smartphone. We call it LePhone, Lenovo phone. So we introduce it Wednesday at the CES. Actually, I don't think the phone is right name for these kind of devices. So it's small, but it can do much more than just making a call. It's a full function mini-PC, just like Paul, you talked about. Of course, this device is powered by Qualcomm's Snapdragon.

The second product is what we want to focus on today, the world's first and best smartbook. We call it Skylight. As you can see, so maybe we should have a picture here, is slimmer(?), lighter than any other notebook or netbooks. It's

always connected and has all-day battery. And it was designed with the internet use in mind.

So now I would like to invite our Skylight project leader, Peter Gaucher to show you some more what it can do. Peter, please.

Peter: Thanks Yaunqing. Hey Paul. Well, we're very excited about this new Skylight product and so I'm going to give you a little quick tour here. As you said, this is first of its kind in a new category and so we were, with the help of Qualcomm and the Snapdragon processor, able to create a very sleek, stylish device, a mobile web device. And you can see it's got a generous keyboard, large track pad, HD quality screen. It's as thin as my smartphone, a little under two pounds and fully integrated 3G Wi-Fi and Bluetooth. But the hardware and the form factor is great, but that's only really half the story. The real magic in these devices, I think, and you guys talked about it, is user experiences, user experiences that are really tailored for the mobile web.

So we designed a user interface that's focused on how we think people are going to use these kind of products. Active web gadgets. You can see I've got access to all the things that I'm going to want to do -- email, Twitter, all the social networking applications, YouTube videos. This is one of the first products to be running Flash 10 on an ARM product in a full-screen experience. So that's news as well. These gadgets can be loaded from the bottom, you can have as many as you want. I can flip the gadget over, change settings. I can move it around. I can go to another page and have as many of these as I want. Also have a lot of media. This is not just about browsing anymore, we have to access to movies, music, content, etcetera.

The other thing is, once you want to work more actively in a particular application, we have this view that we call three-space view where with the high res screen I've got room for a full size webpage, no horizontal scrolling, and access to my gadgets on the right. So today's web user isn't just staying in one thing, they're bouncing back and forth between Twitter, changing their music, updating their Facebook pages, etcetera.

So we're connected live to the AT&T network here and Paul, I thought you might want to do a little Tweet to your fans, I think we just lost our connection. I kicked the cord. It's a great keyboard isn't it?

Paul: It's awesome.

Yaunqing: So I hope you could do that every day in the future.

Paul: Hey, you know what? I'm leaving with this one, so don't go too far.

Peter: So thank you very much for your partnership. Appreciate it.

Paul: Thank you very much. That's a great demo, awesome device, looking forward to seeing it in the market.

Yaunqing: Thank you.

Paul: Thanks a lot YY. So to speak a little bit more about how Snapdragon is catching the attention of visionary product developers, let's hear a little bit more from the world's largest technology company, Hewlett-Packard. So I'm very pleased to invite my friend, Mr. Todd Bradley, Executive Vice President of HP's Personal Systems Group. Todd.

Todd: Hey Paul. Happy New Year.

Paul: Thanks again. Yeah, happy New Year to you.

Todd: Great to be here.

Paul: Oh, it's awesome. So I was thinking, we're seeing this change in the way that consumers are behaving out in the market. I mean are you seeing the same kind of things that we are?

Todd: Absolutely. We see connectivity as really the next evolution in mobile products. And I remember your pdQ a few years ago, wore out a few suits. But the way people connect to information that's important to them, whether you and I do it as we work with each other, whether we do it with our families, our friends, that's what is so critical today, that simple connectivity. And working with partners like Qualcomm helps us do that.

Paul: You guys are the largest technology company, so how do you respond to this kind of a shift in behavior?

Todd: Well, first we'll probably show you a few things in a few minutes. But I think what's important is how we embrace new partners to help us bring these experiences into the marketplace, how we deliver simpler, more personable, more connected experiences.

Paul: Okay, so we've been talking a little bit high level. Let me ask you something really specific. Got any plans here for Android and Snapdragon?

Todd: Well, we're not going to make any announcements today, but you know how interested and focused, and frankly, committed we are to this space.

Paul: Absolutely.

Todd: You saw us do a couple of things earlier this week with the Slate form factor. Clearly got lots of interest. Now let me have my friend Andy come out and demo some products that we've been working on with your teams.

Paul: Let's check it out.

Andy: Thanks Todd.

Todd: Hi Andy.

Andy: So what we're showing today is our Snapdragon-based netbook that's running on the Android operating system. So obviously with Snapdragon built in, this has a 3G data modem, it also has Wi-Fi and GPS capabilities. With Snapdragon, we're able to make a really thin device, and even though it's thin, it has all-day battery life. And this design has been designed from the ground up to support Android. You notice has menu, back and home, the features you'd expect on an Android-based product. It also offers always-on, always-connected computing. So if I say shut the lid, the device stays connected to the network and I still receive my email. And then when I power it back up, whether it's a couple minutes later or six hours or later, it's instant-on connectivity. So your email is already there waiting for you.

As you'd expect with an Android-based product, we've got a touch screen that can move to the different panels. We've got an app drawer that we can open. You can move your settings around and so the things that you'd expect on an Android-based product.

We've tweaked the UI a little bit to take advantage of the larger screen. We've added a launch strip along the bottom, where you can see we've got a camera, file manager, we've got messaging, we've got a browser. And I'll go to launch the browser and you can see we've got Facebook coming up. We've also added tabs so that you can see – have multiple pages open at the same time. Quickly running through, you can do obviously your email, you can connect to Exchange with RoadSync. And if you receive an attachment, you can open that with Quickoffice and you can see your Word, your Excel, PowerPoint and PDF documents. Moving on, we also have a photo application where I can see my various photos and we've worked on a new innovative UI just for showing the capabilities of the Snapdragon chip. You can flip through and see your pictures and show them to different people quickly. And last but not least, we've got a new music application that shows the capabilities of all the onboard storage of storing all your various songs.

So we're very excited about what HP is going to be able to do with these great technologies. Thank you.

Paul: Thanks a lot. That's really cool stuff.

Andy: Pretty neat stuff.

Paul: Great stuff, thanks a lot Todd, really appreciate the partnership.

Todd: See you soon.

Paul: Thanks. Those things are awesome, huh? So the Snapdragon platform and the smartbooks that we've seen here today, they're going to significantly lower the cost of computing and that's going to make mobile computing more accessible around the world to people who may have coverage by wireless network, but haven't had any converge by fixed internet. For many people around the world, the only computer they're going to have is going to be their cell phone. And we fundamentally believe that wireless has the power to change people's lives for the better.

And one of the ways that we're turning that belief into action is through this Wireless Reach Initiative we have. So our goal is to create projects and partnerships throughout the world that use 3G to help underserved people and communities in a lot of areas – areas of education, healthcare, entrepreneurship, public safety and so on. So what we've done is we've partnered with public and private organizations around the world and so far we've created 37 projects in 22 countries. For example, I was just recently in Nepal launching a computer lab, actually with HP computers connected up with 3G technology.

And why are we doing this? Because given the way the technology is changing, the digital divide is growing between those who have digital connectivity and access to the network, and those who don't. And it's absolutely critical to close this connectivity gap, because studies have shown that access to wireless communications has a direct, positive impact on people's economic well-being and that's particularly true in developing countries.

So let's just take a moment here, I want to talk to you about a few examples on how this program is helping people who are really truly benefiting today from the power of wireless. So one of the areas we worked was with partners in India and we developed this application called Fisher Friend. So what happened? In 2004, there was a tsunami that hit the coastal areas of the southern peninsula in India. And obviously, the fisherman there were very heavily impacted by this tragedy. So with this Fisher Friend application, we're able to provide the fishermen with

local weather updates for their safety, and in addition, we can tell them now where the fish are, we can give them market information so they take their fish to the right market instead of the one that has too many fish at it already. And that maximizes their earnings. And this thing is all available on a 3G network, it costs about 60 cents a month for the application. So the cool thing about this program is – and we started out to improve social welfare, but it actually turned into a commercially viable product, and it's helping the fisherman tremendously. So it's a real win-win for everybody that's involved with it.

We're doing a lot of things with Wireless Reach in many parts of the world. We're connecting rural villagers in the mountains of Peru with telemedicine services and what that does is it allows teams that might have gone to this remote clinic to do checkups, they can do follow-ups later on by video using 3G wireless connectivity. And in other parts of the world we're providing impoverished women in Indonesia with micro-financing assistance in wireless devices. What that's doing is they can open up their own businesses. So those are just a few examples.

But one of the areas that Wireless Reach, I think, is having a major impact is in education. Because this thing – getting education is key to making sure that we're training the minds that are going to create these industries and jobs of the future. And we believe at Qualcomm that access to wireless technology is critical to improving academic achievement. So we've funded education projects around the world in China and Guatemala, I talked about Nepal, Vietnam. Also we're doing stuff in the United States because right there in the United States we have an urgent challenge to deepen and expand math and science education. And we believe that putting mobile devices in the hands of students provides them with new levels of access to learning resources. I mean it gives them the ability to collaborate with peers and advisors, both in and outside the classroom.

So we have a project, Project K-Nect in rural North Carolina. We gave always-on, always-connected mobile devices to 150 high school students, most of whom previously didn't have any access to the internet at home. Through the wireless connectivity, we have seen meaningful results in educational results, meaningful improvement. Specifically, for two years in a row, the Project K-Nect classes showed a 30% increase in their proficiency rates in algebra and we did this by having class that had the devices, another class that didn't, same teacher. So you really could see this improvement. So that's going on.

And we decided we're going to extend this. So I'm really excited to announce that not only are we continuing and expanding Project K-Nect in 2010, but we're also going to expand to four new projects. We're going to use these to explore ways to overcome barriers to the adoption of wireless in schools, because we believe these projects will be really instrumental in increasing the understanding of the role that

wireless can play in the education system. We're very excited. We have a number of research institutions that we're working with to develop and test these different strategies for putting wireless to work for students. Clearly, wireless technology has an important role to play in education and it really is not the distraction that teachers have thought. It's really helping students learn and that is going to help bring our classroom into the 21st Century.

So we're also excited about using the mobile device and some new technologies that we have to reduce the number of books that kids have to carry with them. And how many seen kids, they've just got this huge backpack full of books. So we're going to fix that, and at the same time we do that, we're going to improve the richness of their learning experience because we're going to allow them to interact with their textbooks in a more of a kind of multimedia way. We're going to let them go digital, we're going to let them go onto the wireless network to access information.

And one really critical technology is this display technology that we've been creating. It's called Mirasol. And one reason why we started developing Mirasol is just in response to the shift that we saw where people are spending more time looking at their phone than talking into it. And we think that trend is going to continue. And there's two critical things that relate to that change. So one obviously is battery life. I mean it's clearly impacted by the fact that you're using the display all the time, since much more power is needed to backlight the screen. The other thing is you want to use your device anywhere. You want to be able to use it when you're inside, but you also want to be able to see the screen when you're outside in bright sunlight. Now this technology is really cool because the way that it makes colors is through interference, similar to the way that a butterfly's wings reflect colors.

So you've seen e-Ink displays and devices like the Kindle, so this display technology does the same thing, except does it with full color and it does it with full motion video. We've got a little demo device here and we think that the – really, the next generation of e-readers are going to have a full color display, they're going to consume less power, they'll be video capable and sunlight viewable. So what's going to happen is this new functionality will allow not just books in black and white text, but glossy full-color magazines to be online – and think about it, they'll be real-time. So they'll be updated and with video and video advertising and all these things are going to be possible in there. And we're ramping up to commercialize these capabilities towards the end of 2010 and we'll see this, like I said, initially in e-readers and smartbooks and other types of devices. So you can kind of see the kind of quality that you're getting off of these types of devices. And really kind of a cool technology here.

So you can see, for example, you're scrolling through the magazines and then we can zoom in on them. You can see that it goes through the pages. There's a butterfly. Anyway, so it's really cool and you can get the – you can actually see there's video running on this stuff. Now obviously we're not going to be making these devices. This is really a demo and we'll be working with partners, as I said.

So we've talked about education. Now let's talk about another important area, healthcare. So you're probably sitting there thinking, healthcare at CES. Why are we talking about that? Obviously, because I'm here it's because wireless is going to play a big role in making healthcare more accessible and affordable, but really, the important thing is it's going to be more consumer oriented. Wireless is going to be embedded into sensors that are all around you or on you and they're going to help you manage and monitor many aspects of your life.

Now we all know healthcare is top-of-mind right now because both in emerging markets and in developed markets, the costs are out of control. But there's this other issue. We're facing the fact that the populations are aging. The doctors are aging with them. So think about it, at a time when we most need doctors services, they're going to be retiring. That doesn't sound good. So we've got to improve the productivity of the doctors that we have and we need to do things that will help people stay healthy longer. How are we going to do that? Wireless is going to be able to provide people with real-time feedback about their health.

Now there are a bunch of different issues that have to be resolved along the way. One obviously major issue is getting the payers to pay for wireless devices and services. But in order to get that to happen, you actually need to show that this new treatment or device is actually beneficial. So we're working closely with the West Wireless Health Institute and Scripps Health. The institute was founded by the Gary and Mary West Foundation. It's the first medical research organization dedicated to advancing health through the use of wireless technologies. So we've got another partner here. Please welcome the Chief Medical Officer of the West Wireless Health Institute, a man that *GQ Magazine* called one of the 13 Rock Stars of Science, a great friend and a great partner of Qualcomm, Dr. Eric Topol.

Eric: Paul, great to be with you.

Paul: Thanks for being here, Eric, I really appreciate it.

Eric: Well, as you've been introducing, this is an incredible time in medicine. Medicine is going digital and you've been talking about a lot of gadgets and I feel a little like an alien here at the consumer electronics, but in fact, there's more things going on in this space. In fact, the last decade that we just came out of was the digital wireless device, this is the digital medical device decade we're going into.

Paul: Cool.

Eric: Consumers have been consumed by the healthcare economic crisis, but we can innovate out of that and that's what I hope to be able to show you in just the next several minutes. There's a lot of devices, this is one I'll show you about – it tracks all the vital signs. There's obstetrics for high-risk pregnancy, it's with a smartphone. There's measuring the electrocardiogram, which as a cardiologist for 25 years, I never thought I'd see the day when I could…

Paul: It's amazing.

Eric: …look on my phone anywhere, a patient anywhere in the world. There is being able to measure calories going in and out throughout the day. And these are all things -- like glucose every five minutes -- that are all going to be here and now or within the next year. So these are – this is the sleeps(?) phases. I'll go through that very quickly in just a minute. And this all started with the fitness world, as called out by wired, on wireless back in the summer. And this was a revolution that started, interestingly, with the Nike shoe. The Nike shoe is now in 1.4 million Americans and it communicates through a body area network in the sole of the shoe to the iPod or iPhone. And this is, of course, a remarkable beginning in fitness, but it goes well beyond that.

Fitbit, come on over here, I've got a bag – I've got my own medical bag, I loaded it up with a lot of these goodies of gadgets for medicine. But this is for fitness. This is the Fitbit and this is the Direct, Phillips DirectLife.

Paul: See what you're saying.

Eric: And it's actually remarkable. They're wireless accelerometers. I know you exercise a lot and I thought I did a lot, but you know, you need 10,000 steps a day and after working really hard for 45 minutes, I only got to 5,000 steps. I said, oh my gosh, how are we going to do this? And so this is helping people, using these devices and others like that, to increase their physical activity.

Paul: Now you just need to walk around the show floor a little bit, you'll get those 10,000 steps in.

Eric: Yeah, that's what I hear. I'll have to get over there. Now the other device that's really kind of seized us by storm – very surprising – is this sleep device made by Zeo. Are you a pretty good sleeper?

Paul: Usually, but last night it's Vegas and all, so I'm not so sure I got great sleep last night.

Eric: Oh, you look pretty well rested, but it's not about the quantity, it's about the quality. And what we're learning is when you can track every minute of sleep, which phase you're in – so we see a night of my sleep here. And each of those bars going, starting at about 11 at night and going into the morning, each bar denotes this phase of sleep, whether it's a deep restorative sleep that we need the most of, or rapid eye movement dream sleep, light sleep or awake state. And that can be a little dangerous when you're awake and your spouse says, I've already experienced – you're trying to play possum and she'll say, "Eric, I know you're awake." My wife's here. She says, "I know you're awake," and she can tell just looking at your alarm clock what's going on. Well, what's really fascinating is you get an output -- in the morning when you wake up you get a Zeo score, how good you Z'd during the high, the quality. And here's a week of my life and just now, this is going to be on a mobile device this year. Just when your office staff gets your bad score, they're going to know, he's going to be a grump today. They're going to have it quantified.

Paul: Moi?

Eric: Yeah, I know it never happens to you.

Paul: My assistant here, she's going to love this thing.

Eric: I know it never happens to you, Paul. But so that's what's changing. Now before I -- and moving from fitness and health, I wanted to show you something I just saw a few weeks ago and I was really awestruck by it, and that's being able to track vital signs in any individual in a hospital at any time. And this is just, of course, through the phone. And just to go right to it here. This is a patient, happens to be in Texas in an intensive care unit and let's pick one of these patients. And this is the vital signs of this patient.

Paul: That's amazing.

Eric: We've disguised the name for HIPAA purposes.

Paul: Of course.

Eric: But this has the heart rate, the rhythm, the blood pressure continuous, oxygen, temperature, beat by beat, real-time, and that's pretty remarkable. You can track any patient.

Paul: Like StarTrek.

Eric: You what's really scary? You know how we check our email?

Paul: Yeah.

Eric: We could sit there with a band-aid on in the next year, we'll be checking all our vital signs. Can you imagine that?

Paul: Now, that's frightening.

Eric: Yeah, yeah. Well, that's in the hospital. We want to keep people out of the hospital. A hospital bed costs more than the Presidential suite at the Wynn or Encore Hotel. So we've got to keep people out of the hospital. Number one cause of hospitalization and readmission in the United States, heart failure. Now we've got a wireless solution for that. I think we're going to be testing that and that's this Pix device. And I happen to be wearing one of these and I've got one in my bag and it goes like that. I'm wearing it just like that. And we can put it on as to what it shows, I think. Here we go. So that's my heart rhythm up top and my heart rate is 75, so I guess I'm not too nervous here. Now the thing to the right of that is the bioconductance, which I the tissue conductance, telling us about the fluid status of the patient, which is so critical for someone with heart failure, to keep them out of the hospital. And then, the little avatar at the bottom, that's telling the person's position and activity at all time. So that's, again, another important feature for someone with heart failure. How many pills they're putting on at night when they're trying to sleep and they're moving around. So all kinds of tracking information continuous for heart failure and we'll be trying to test to see whether we can reduce hospital admissions, readmissions. So that's -- $37 billion a year in this country for heart failure hospitalization.

So now moving forward on this, we know there's 140 million Americans with at least one chronic disease like heart failure. And there are approaches with these wireless band-aid body area networks to all the top 10 major diseases that affect the public. So this is really very exciting and very pervasive as you can see.

Paul: Yep.

Eric: So I know you're very inventive. We heard about your patents earlier, but you may have followed – *Time* had the top 50 inventions of the years and one of them, number 14 was the GeV scan. Now this is pretty remarkable and I have to say, I hope it's going to work, but this is the first time it's ever been demonstrated in a live setting.

Paul: Really?

Eric: And you know, this is an Echo machine that is like a refrigerator, it costs about $300,000, now it's like the size of a cell phone.

Paul: That's a big – so that looks like a pdQ maybe.

Eric: Yeah, older version, I know, I know, older version. But let me see if I can demonstrate what an image looks like in this – I've got to get a little goop here, put that on.

Paul: He's not doing it to me. He asked, I said no.

Eric: Yeah, he didn't volunteer for this one. By the way, this is replacing or putting this aside, the old stethoscope, been around since 1816.

Paul: We call those buggy whips.

Eric: Well, let me see if I can show you my Echo here. I hope. Let's see, I'll just give this a quick refresh.

Paul: Demo gods are with us.

Eric: Yeah. Let's see. While we're waiting that to warm up?

Paul: Anybody from GE out in the audience?

Eric: And should be – funny how that always works before you get out to show it.

Paul: I know it. That stuff…

Eric: I put extra pressure on it since I said it had never been done before. But hopefully in just a second. And what I want to be wrapping up with is another form of imaging, as we get this loaded, whereby – here we go. So show you my heart, here it is, there is one in there. Now I know not everybody's fast(?) with interpreting these images, but this is an exclusive image, if I could say so. It's comparable to any regular hospital Echo machine. This shows my muscle contracting really very well, probably a little bit more since the demo wasn't working initially. It shows a delicate mitral valve, it's like a parachute that's closing, -- mine is a little elongated, and the aortic valve. And I could show you a lot of things and put color flow on, but this is a pretty incredible gizmo.

Paul: Very cool.

Eric: And you know what? People are going to be doing their own Echo's sending it to their doctors in the not too distant future.

Paul: Unbelievable.

Eric: But that's going to require moving images. And just to go along that, the company, Great Connections in Sweden, have figured out how to move these images through smartphone. And so they have started with this MobileMe. This is a woman who is 20-weeks pregnant at the Mama Mia Clinic in Stockholm, Sweden, and this is transferring her fetal image, which is being done right at the time of the ultrasound, distributed to the…

Paul: Yeah, to the doctor.

Eric: …doctor or family, whoever is interested. And here it is.

Paul: Facebook?

Eric: Facebook, Twitter, the whole social network scene. And let me just show…

Paul: Sign the kid up for a Facebook account right away.

Eric: Show this image right now. And we'll do that. There we go. And you know, this is the lucky one. These babies that are coming into the world, and this new wireless world, incredible.

Paul: Unbelievable.

Eric: Incredible. So just to wrap this thing up, this is an amazing time in medicine and it's taking charge of one's health. Wireless sensors and body area networks, and these things, imaging and metrics, are empowering consumers to take charge of their health like nothing ever before. So we're moving into an exciting new era of innovation and consumer-driven healthcare.

Paul: That's awesome. Well, thanks very much for sharing that vision. Also amazing products there. So we talked about sensors on the body, now let's talk about how wireless is going to be embedded into your house. So one idea is the phone really becomes this remote control for your life, because wireless is in all these things around you. And so one of the things you're going to need to know is, when are there services or content that's going to be available to you and you want to be able to manipulate that information, provide access to people with that information. And you're going to do that all through your phone. So what's going to happen is actually, with the phone, we will merge the digital world and the physical world together. So for example, you hold your phone up in front of a digital photo frame and you just drag and drop your pictures onto it. Or I download a photo that I shot with my phone to the DVR and I share it. Or I point the music, my favorite station on the stereo at home, that comes out of my phone. I control all sorts of these things around my house.

Now one of the critical elements though to get that to happen is to be able to route all this information around your house without installing a new set of wires. This is particularly true now that we're getting HD quality content. So we have this new technology called N-stream which is a wireless LAN technology and allows you to stream different HD video content simultaneously to different screens in your house. So here to talk about their media adapter that includes our N-stream solution is the CEO and President of D-Link, Tony Tsao.

Tony: Hi Paul.

Paul: Hey, Tony, thanks for being here.

Tony: Thank you for the opportunities. Good morning. For those who may not know D-Link, I think D-Link is a global leader of networking and worldwide consumer in the small and medium business. So we have 132 office worldwide and we provide all kind of networking solution. Our partnership with Qualcomm is helping us to bring networking for that to market, that's revolutional the way all _____ and the _____ .We are proud of the first to the market with the industry for steel(?) band Wi-Fi solution that utilize the flow simultaneously stream of the data. Leveraging Qualcomm's chipset, the D-Link Rush is the solution that changed the way you manage digital entertainment in your home. What does it for you exactly? Well, for the starter, you can unplug all your Ethernet connections and simply go wireless. You can place your TV in any part of the room, instead of where your cable connection happen to be.

Okay, so what else? Well, high definition HD is the way of the future when this come to the digital entertainment. And our solution enable a whole new level of the HD. Have you ever argue with your family about who gets the – what's the favorite program on the DVR? With our solution, there will be no longer be any argument because now you can route source of entertainment to multiple locations in your home, coming from your PC, media adapter or over internet. Imagine your son watching one of the favorite action from upstairs. Now your daughter – okay, could watch the favorite movie upstairs and also the rest of the family can watch other programs in downstairs.

So D-Link Rush solution make this possible. Look for the Rush store beginning in the Q2 of 2010. Paul, thank you very much for this opportunities. I can look for more opportunity to work with Qualcomm.

Paul: Thanks a lot, Tony, I really appreciate it. That was so neat to see the stuff streaming right there. Thanks for being here. So just like we've been working to change the internet from a sit-down experience to a carry-along experience, we're doing the same exact thing with television. So a few years ago we introduced a technology that allows you to view live mobile television on your phone. It's

called FLO TV, it's available through AT&T as AT&T Mobile TV and through Verizon Wireless as VCast Mobile TV. But just last year, we entered the direct-to-consumer market with our own FLO TV branded service and launched this, our very own personal television device. So if you look at this thing, you just go in, you can change channels, you swipe down, channels change and so forth and you get access to all this different kind of stuff. And if you really want to see it, it's sort of hard to demo here, but go check it out at our booth. And you can pick this PTV up at the Best Buy or Radio Shack, online through Amazon, so forth.

But what I'm really pleased about to announce here today is that we've got some other great mobile TV products coming out. So first of all, we're expanding our relationship with Audiovox Corporation. Audiovox already integrates FLO TV with their extremely popular in-vehicle entertainment systems. In the coming years, Audiovox has plans to launch a portable DVD player and it's also going to have FLO TV inside it so that's their planned expansion of Audiovox's FLO TV offerings beyond automobiles and on to other kinds of small screens.

The other thing I'm pleased to announce is that FLO TV is going to come to the iPhone and the iPod Touch. And in the first half of the year, mophie will begin to offer the mophie Juice Pack TV, which is going to allow you to watch live mobile television directly on your iPhone or iPod Touch. So you just slide that into this sleeve.

So in addition to those kinds of exciting developments, in the future, we're also working on bringing new features, interactivity, on demand, data casting, but really, what we want to focus on is content. Let's talk about content because everybody cares. With FLO TV, the nation's couch potatoes can get off the couch and the nation's top 110 markets and they can still get the best programming from the world's leading entertainment brands. So let's just take a look at that.

VIDEO

Paul: So thanks to the increasing availability of outstanding content like that and the high quality of the FLO nationwide network, we're seeing growing interest in mobile TV. In fact, the average FLO TV viewer spends 25 to 30 minutes a day watching their favorite programming. Now if there's one thing that we've learned through all of this stuff is that one of the main drivers of viewership is sports. So this year we're going to be doubling down on our sports programming, we're going to offer more action than ever before. We're going to have football, basketball, hockey, tennis, NASCAR and this year alone, FLO is going to offer more than 3,000 hours of sports programming and more than 1,200 live sporting events. So we'll have March Madness on CBS Mobile, NHL games and Stanley Cup on NBC2Go, Wimbledon, US-British Opens. I mean we know that sports is a sweet spot for our FLO TV viewers.

But don't take my word for it. So let's hear from one of my favorite sportscasters, a man who has covered it all, from hockey to basketball to football, sports Illustrated named him the Best Studio Host of the Decade. We all know him as JB. Ladies and gentlemen, Mr. James Brown.

JB: Good to see you Paul.

Paul: Thanks for being here, JB, I really appreciate it.

JB: Good to be here, thank you very much. It's a pleasure to be here for sure.

Paul: So you're probably the best authority on what a sports fan is going to like, right? I mean you've been doing this for such a long time. What do you think? How do you think a sports fan is going to react to having something like a TV they can carry around with them?

JB: This will be a must get, to say the least. I mean I've been blessed to cover sports for virtually all of my adult life and I can say that sports fans are some of the most knowledgeable, most informed, and I do say this lovingly, they're some of the most rabid people around as well too. So there's no question that they will want this to stay on top of things, following their favorite team or their favorite player. And what I found out over the years as well, they want it on their own terms, so this provides real-time connectivity.

Paul: So you as a pro, how about you? I mean what do you think? You think this thing is going to – is that going to help you out?

JB: Oh, without a doubt. In terms of staying connected, sports and technology is the perfect combination for me. It's amazing how many people think that I'm supposed to have an encyclopedic knowledge of sports and they often quiz me about that wherever I am, Paul. As a matter of fact, flying in from Chicago just yesterday while we're waiting at the airport, there was some seven or eight 20-somethings who came up to me and they're peppering me with questions about NCAA basketball, the NCAA championship game last night between Alabama and Texas, or the upcoming NFL playoffs this week. And so it's incumbent upon me to stay as conversant as I possibly can, so as to at least keep up the perception of being the sports knowledgeable one, you know?

Paul: Yeah, exactly. So for us, what we've seen with this thing is that when there's these major sporting events on, viewership goes up like crazy. I mean do you think it's going to change the way a fan sort of interacts with these events, how they feel about sports, how they can get into it?

JB: Especially in the younger population. As I go through the airport or the train stations, whenever there's a major sporting event on, Paul, they're all glued to the TVs. How cool, how receptive will this be that they can have it on their person when they are traveling around? There's no doubt in my mind – and as a matter of fact, gosh, I mean I'm thinking – this is probably a little pitch for me – FLO TV and JB. It's got an amazing euphonic ring to it.

Paul: It's a new slogan, we're using it, we're using it.

JB: There's no question, I'm going to have that for sure.

Paul: Well, thanks. So you've had a great life too and I guess you've got a new book out. So tell us a little bit about that one.

JB: Well, very humbly, I wrote a book entitled *Role of a Lifetime*, a lot about my family as well, but coming from my involvement in team sports and certainly being akin to that in the world of sports broadcast television with first the Fox NFL Sunday crew and now with CBS, I'm accustomed to working with people and being a part of a team, wanting them to shine. And there were some foundational truths that I've learned that are applicable in the game of life, so I've tried to share both the good and the blemishes in that book. And hopefully it proves to be aspirational and inspirational.

Paul: Well, I'm looking forward to downloading it wirelessly onto my e-reader, so check that out.

JB: And so you'll knock out in about 20 minutes.

Paul: Well, thanks a lot JB. So all you guys out in the audience, you want in all this FLO TV action? So this may be your lucky morning. JB, you want to do the honors here?

JB: Well, with that in mind, we've got 300 of you out here will be very fortunate to go home with your own personal TV, your own FLO TV. And all you have to do to win is to reach up under your seat and pull out a card and if you're one of the 300 fortunate ones, with that card, it will say you are a winner. Can a few of you raise your hands and see who's won? All right, there we go. All right, looking good.

Paul: Right.

JB: So what you need to do – I'm hearing a number of different languages on that. What you will need to do is bring that card with you over to the Qualcomm booth, where by the way, I will be there hawking my book. Bring that card with you and

you can redeem that for your free television. And, you will get six months of free service included with that, a pretty good deal. So congratulations to the winners.

Paul: And not to leave everybody else out. If you didn't win today, the rest of you still have a chance to win your own PTV by simply tweeting your thoughts about today's keynote – and be nice – to the hash tag, QualcommCES. So anyways, we covered a lot of topics here today I know. I really want to thank everybody for joining us here today and I really want to reiterate one thing. Qualcomm is committed to unleashing the power of wireless, to transform the way we all live, learn, work and play. Thanks again for being here, please come visit our exhibit. Hope to see you there everybody, thanks a lot.

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