



*Hosted by the University of Arizona Race Track Industry Program*

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## **Using Technology to Improve the Wagering Experience**

**SPEAKER (Via Skype):**

**Oonagh Chan**, Head of Broadcasting Service, Hong Kong Jockey Club

**Mr. Doug Reed:** Okay, what I'd like to do is introduce our next simulcast speaker, since we're in the simulcast mode here. With the time difference, we are simulcasting from the Hong Kong Jockey Club.

Our next presenter has prepared a video for you first. We're gonna show the video, and then contact her with Skype for questions and answers. As you watch the video feel free to write down your questions and then come up to the mic as soon as the video ends, and we'll take questions for her. It's pretty early in the morning in Hong Kong, so if we could have your questions if you have 'em come right up the mic afterwards.

Let me introduce her a little bit even though she's not here. Oonagh Chan I met actually when I was over in Hong Kong. I saw two presentations of hers, and actually both of 'em were pretty amazing. She did one on operations that was more focused towards the lights on the racetrack. Highly technical but not over my head so to speak. I could tell her expertise there and the amount and the level of detail that they do with everything that they choreograph, the lighting, the technology they use.

That's not what she's gonna talk about today, but I thought I'd just share that with you. Then the second presentation was more about some of the technology they use, some of the different types of cameras, some of the ideas that they have and they're currently using and some of the things that they're working on that they're soon gonna use.

One of the things that impressed me is there's some simple things cuz I told her not every racetrack has a budget of the Hong Kong Jockey Club obviously. There are some things that are on a lesser budget that one could do. She had a camera that was a 360 camera hooked up to her phone where if they had the camera set right you could see horses in the paddock or whatever through the internet feed. Those cameras I asked her and she said they were in the \$300.00 range U.S. There's a lotta different things, and I hope the presentation kinda stimulates your questions.

Oonagh is the Head of Broadcasting Service for the Hong Kong Jockey Club. She started with Hong Kong TVB in 1976. She's an expert in TV program packaging for live sports coverage. She has worked in Channel Ten in Sydney for Perfect Match in 1986 and in SPS News.

She's currently working as the Head of the Broadcasting Services for the Hong Kong Jockey Club. That team started as a small team of 5 people in 1993 and has grown to over 130 full-time staff and over 150 part-time staff. A little larger budget than prob'ly most of us in this room have, and an annual budget in Hong Kong dollars of 1.2 billion. That being said I know some of the things she's talkin' about are more practical and on the kind of the lesser budget end. Let's go ahead and roll the tape, and when we get near the end of the tape I'm gonna connect with her for your Q&A.

**[Video Plays]**

**Ms. Oonagh Chan:** Hi. Good day. My name is Oonagh Chan from Hong Kong. I'm representing the Hong Kong Jockey Club to talk to all of you. It's my honor to be able to talk to you via technology from Hong Kong to Arizona. It's a long way away, and then our time zone has a significant difference. Right. Today I'm gonna share with you a couple of case study on how the Hong Kong Jockey Club is to assist our customer and then to liberal their choices in the choose of the informations that they want. Okay, to start our presentation today I would like to share with you our new Racing Excellency video.

**[Video Plays]**

**Ms. Oonagh Chan:** Well, today I'm gonna share with you how we actually collect statistics. Then as a background to develop our strategic approach on the customer-centric issue, and also how we use technology to enable the liberalization of choices by our customers. First of all, let's look at some of the statistics. Henry Jenkins said we are living in the moment where story, image, friend and relationships are actually play out across multimedia platforms. It's no more one single platforms that actually entertain us.

We are doing a lot of things across a platform using various digital devices and also phones, tablets, and so on. Then a lot of decisions are not actually driven from top-down but actually bottom-up by kids. They are genius in using digital devices. Then they are actually making a lot of decisions during that time when they are still

actually WhatsApp their friends, doing Twitter before going to bed. Then of course once we hear what the bottom wants, and then we will actually do a top-down decision by analyzing their needs and then develop our strategy.

Okay. Let's look at some of the statistics. Demand for the TV consumption in the U.S. is 185 hours. While in Europe the consumption of TV is actually less because they actually spend more time in internet and in surfing and then probably communicating with their friends on their internet devices or on their mobile devices. Then TV, well, you would say TV is dying. That's not true. TV is not dead.

If you look at the total consumption of TV 41 percent of the people who are watching TV is also doing their own thing on their digital devices like their mobile phone and their tablets, 7 percent are actually doing shopping and then 11 percent are actually watching news and entertainment. The other 11 percent are actually socializing with their friends and communicating. If you look at it globally, each person has more than one digital devices.

Then the average is they have 3.6 devices. Well, I have a company phone. I have my personal phone and also a tablet that I carry around to work. It's very normal that we have quite a lot of digital gadgets with us. Then if you look at how people are actually spending their time they are actually watching TV. Then when comparing with the time then they spend on the linear TV they also spend a lot of time on their desktop computers. If you're comparing the time spent on 2012 and 2014 you would see a slight drop on watching TV.

However, there is a growing tendency of watching TV away from home. Then you think they are on mobile devices especially on tablets. If you look at the growth of the tablets in 2014 comparing with 2012 there is actually a significant growth on the use of tablets and also Smartphone. Desktop computers are actually declining.

Then if you look at the various patterns, well, the working away from home is actually getting more and more popular. You hardly see people actually sitting in front of their desktop. Then probably when I'm talking to you on the TV screen you are also working on your tablets and your mobile phones and not listening to me.

**[Laughter]**

Then if you look at the scenarios in details there is actually a new concept called place shifting. Place shifting is actually an interesting concept because what it means is when you are using a digital device — actually, when you're traveling to work you prob'ly watch some of a TV story on your digital device. Then when you arrive in the office and then if you are working on your desktop when you're having lunch you may want to actually watch the other part of that exact same story. You are not only across platform we are no longer linear, and then we are no longer static.

The place shifting concept plus the time shifting concept is actually an emerging approach on how consumers actually consume the media product. We are looking at a completely new approach to how we distribute information to our customers. It's become an approach that its prime concern would be to allow them to have the information anytime, anywhere, with any device. You would not be able to confine them to just one single device. It's all the time they are having different devices that they would use. It's really important that whatever content that we create both the aesthetics and the formats should be actually catered for multiple devices.

Okay, how that would relate to sports TV? Well, interestingly watching TV sitting in front of a TV set is a very passive experience. You would never be able to communicate and interact with the TV presenter or even feel the excitement of sitting in the spectator stand in the field. Customer become unhappy with that type of viewing experience of very linear and especially very passive, so how that would change what they really want?

They want active involvement. We have to provide 'em with interactivity with their peers, and sometimes with our presenters especially for racing. Then they have to participate in the game either with very strong visual experience or with communication. The future approach to TV would be to provide onsite spectator experience even though if they are still sitting at home. We have to ensure through the technology enabler we are able to satisfy our customer needs.

Okay, how we are going to use technology as the enabler to actually facilitate our approach for a customer-centric approach, for information dissemination and also for the spectator experience that they would like to have? Let us have a look at some of the changes in the U.S. and in the Hong Kong market.

Well, if you look at the penetration of mobile phones in U.S. the data is from April 2014. Well, the penetration rate is 103 percent, so you have over 27 million people using mobile phones in the U.S. In Hong Kong we have 7.2 million our population. However, our mobile phone user are 17 million.

Again, with the statistics that I just presented to you of each of the person in the developed country would have 3.6 mobile devices. Well, in Hong Kong we have at least 2, so we are very close to the highly developed country of people who has 3.6 device each. With such high penetration rate we actually have no choice but to enable our customer to access information, to have live streaming experience and then to have interactivity through the digital devices.

Well, with 3G and 4G networks we are able to actually allow our customer to choose how, when and where they consume the informations that we provided to them. Then for sports TV it's really important that the people are very keen to connect with the sports that they love. Social TV engagement with sports is a big thing. Actually, they share a lot of impression by actually commenting on the players' performance. The informations that you're watching and the statistics is actually from the U.S. It's really interesting how they use the tablet and the digital

devices to engage with other spectators while they're watching or enjoying the sports live coverage.

Okay. The next things I'm going to share with you is transmedia storytelling. You would actually ask me what exactly is transmedia storytelling? It's actually a process where the different part of a story would be made available in different channels. If we took it back to horse racing, if you're watching a live horse racing event you cannot actually go back to see the replay at your own time, right?

The issue is if you go back to the statistics that we've just shared people are doing multitasking at any one time. They are linearly sitting in front of the TV watching a live racing. However, they are also actually using their tablets to access information to think about what they're going to do with the next race or to actually criticize what's going on on a previous race.

What we are going to do and then how the club does it is actually to partition various informations and then look at the information's characteristic and then put them into various platforms. For example, like if you want to study forms for horse racing and then you want to watch the morning track work, we put all the morning track work on our website. The particular focus of a race we'll simplify it, put the focus onto digital device and onto mobile phones so that you can easily access to that particular piece of the information without a lot of reading or prolonged period of time to consume those informations.

However, with the different piece of informations coming together it give you a united experience and unify information relating to a particular race and to a particular horse. It's not simple. It's actually quite a thorough process that you have to consider. If you look at Harry Potter and also quite a number of the American dramas, the Hannibal, they provide you with the linear experience of watching the drama series unfold on TV.

However, the addition evidence and also the personality of the protagonist and also the information about the crime itself are also made available on your second screen. On top of watching the TV program itself you are also collecting evidence on your own, and then you would figure out or to predict the various ending of each episode. It give you actually a real-life feeling of being involved in the crime scene. It's really interesting.

Then with the technique the TV producers also is able to put in direct advertising like product placement into the app itself while you're collecting evidence. It's a blur of both entertainment and also kind of low-key type of marketing. It's actually served quite a number of purpose by complementing the primary screen with the second screen.

Then the power of transmedia storytelling it's actually very interesting. You have to think about how you can actually tailor the content for cross-platform consumption. Something may work on a primary screen for a TV viewing experience. That piece

of same content may not be applicable for the interactivity use of the digital platform especially for mobile and tablet.

You have to think about the device size, the amount of information that can flow into a 10-inch tablet and then the content that is suitable for a 60-inch TV. It's actually you have to think of the aesthetics, the approach and then the amount of information being distributed or being actually the experience provided to the customer.

Okay, how we actually apply the transmedia solution? I've been telling you about the various elements can be actually integrated with each other and how they could actually complement each other. Let us share some of the cases with how the Hong Kong Jockey Club use it.

In the horse racing part we are looking at various channels. We have free-to-air TV which is actually linear. Then in the club we also have infotainment TV programs which we actually plot onto a horizontal platform. Then the information although still relating to horse racing, but we are packaging it very differently. We are using a more infotainment technique to actually package the racing information for the particular customer segment.

We try to understand our customer as much as possible. Then based on their requirement and their level of involvement in horseracing we tailor and customize our content for that particular customer segment, and then also to provide them with the TV experience that they would prefer. We also have print. We also have a blog and also Twitter relating to our customer demand. Then we also develop racing simulator. Also, I'm going to share with you how we actually what with our Second Screen and also our new Racing Touch app.

Okay. We're going to look at two case studies. The first one is our Trendy Count app and then the second one is our TV Second Screen. Well, this Trendy Count it's a very interesting thing. We developed the Trendy Count initially as a plain. Pretty much like one of your card game boxes. Then we put the jargons and then difficult meaning onto the Trendy Count by actually a comic execution.

If you do not understand what is furlong means in Cantonese it has very close pronunciation as a hair salon. We actually put a comic picture as a hair salon with furlong on top in Chinese. At that back we explain to our customer what furlong means and how it's actually being applied. Because in Hong Kong we are actually calculating our distance with meters, but when we are doing overseas inbound simulcast, and then we have to understand what furlong means and how to actually calculate distance.

It's actually put in quite difficult to understand racing jargons into actually a more interesting format on a plain. However, our customer were prob'ly not satisfied with the plain format. When the first generation of iPhone was invented with app we actually put the Trendy Count onto the iPhone.

Then when the iPad was released, well, we started to think with a ten-inch screen how can we maximize the user bed and also the various motion like shaking the iPad to play games, and so on, and so forth? We have the Trendy Count app developed with animations and also a video clip to talk about and explain about jargon. That's the start of how we actually use cross-platform approach to handle difficult informations.

It's actually we are covering not only our hardcore segments but the changing and packaging. Then the changing in story treatments are actually expanding our capability to reach to our new customers, our rookies and also our younger more digital-savvy customer segments.

In the second case study that I'm going to share with you is actually our Second Screen approach which is the Hong Kong Racing Life. Well, if you are willing to play along with me please actually type onto your digital device, either your Smartphone or your tablet, the address of our web app. Okay. I assume you are ready. Then we can actually start with our app.

In our app we have the starter list, the order entry list of that particular race day. Then we also have a tab for showing the win odds which is update in a 12-second cycle. It's very timely information that is under your fingertip. Also, we have statistics which is the various statistics and other information relating to that particular horse or the trainer.

Then we also have a chat room for the racing fans to actually interact with each other as well as to interact with our presenters. On top of that we also have additional videos, additional camera angles that you would not see on linear TV. If you think of the 30-minute interval between each race it would be very difficult to pack all those alternative camera angles into the linear programming.

What we are now doing is provide the user of our Second Screen with alternative camera angles. Then you can choose the camera angles that you want to watch. Then we also now after our race we also provide you with a split-screen experience so that you can watch the general live coverage plus the video patrol coverage at that same time fully synchronized.

Then we also have an announcer room which is provide you with the updated steward's information relating to a horse like change of jockey, change of weight and then the health situation of a particular horse. They're only available onto the Second Screen. The Second Screen app with the exclusive content are actually creating a privilege class, so that they are actually identify with them self through the chat room and then communicating and then talking about the alternative angles. Then they are believing that they are different from the general public who are just watching linear TV.

Then on top of that our live chat being selected by our editor online. If their comment on a chat room is being selected and then put up onto the HD channel, well, in Hong Kong there are over a million people watching the TV program in our

off-course betting centers and also at home TV and in the racetracks. They would be feeling that, well, my opinion's really important because there's over one million people watching or reading my opinion on the TV set. It's actually creating an instant liberty feel for our customer to actually participate in the Second Screen.

We also create the awarding game for you to select which horse that you think would be the winner for a particular cup race or feature race of that particular day. We create a lot of different questions during a live race day in different races to actually encourage customer to actually participate in awarding. Then have more engaging techniques to actually help them coming back not just for the live program, but also for the Second Screen interactivity experience.

The philosophy behind this is we customize our viewing experience based on the informations that we obtain from the different customer segments, what they want. Then we try to customize our content to satisfy their requirements. Then we connect through the Second Screen chat room among our viewers, and then also between the viewer and our presenters. Because if you pose a question to our presenters our presenter will actually give you a answer or reply either on the live TV program or through the chat room.

Then we create values by providing exclusive information on the Second Screen and creating also a privilege circle of racing fans. Then also we encourage them to compete for being an instant celebrity to provide their own tips, probably the best tips. Then eventually we are going to run kind of like best tipster of the season through our Second Screen to encouraging them to actually provide information, comment on forms and then to actually promote themselves as an instant celebrity. That's the four C's when we think of how our content and how our philosophy of developing our Second Screen. Remember the four C's: customize, connect, create and compete.

Okay, then we have the Trendy Count which is a transmedia experience. We have our Second Screen which is actually enjoying by over 10,000 customers for each race meeting. Then what next? Well, it's actually a very difficult question because the Hong Kong Jockey Club is quite willing and very adventurous to try out new technology. Then we are the first in using Second Screen in the racing industry. Before that in our capture technology we have tried out a lot of things.

Well, we tried the transporter. We tried the airship. We do the flying cam. We have the super set up for the photo finish. We have ten-times slow motion. We have the flying engine for aerial shots. In Hong Kong we have quite a lot of restrictions. We are not allow actually to fly helicopters or fly balloon or airship on top of the racetrack because part of our racetrack is on route to the international airport. With all those restriction we have actually difficulty in trying out aerial shooting. Other than that, we are always under the limitation, but we are still trying various capturing technology to actually provide new camera angle for horseracing.

With the technology advancement and the 4K TV and the Eckay capture and display devices what are we going to do? Well, we are trying out similar panoramic view of the entire racecourse capturing in two 4K camera and then stitching them together. Then you would ask, well, what's the purpose of it? The purpose is really important because we go back to the customer-centric approach. Once we have a stitching with two 4K cameras we produce a very high resolution image.

Then you would ask me, well, what is the use of providing to me a very high resolution image? The purpose is to liberalize the choice. Why you would ask. Is to let our viewers choose what they want to watch on top of providing the alternative angle on a Second Screen, but it's still been provided by us, right? The viewer does not have the choice to choose how they want to watch the race. With the new technology we may be able to actually allow them to choose which horse they want to watch and how they want to watch it.

Okay, what we have tried out is actually the stitching of a 4K image. Okay, when we stitch the video together, well, we can actually look at the full racetrack. Then with the high resolution what we can do is you can actually expand the races as you wish. This will be made available with the advancement of technology and also display devices.

We are thinking of how that technology can be applied also onto the Second Screen. Well, when your primary screen do not have the touch and expand function, well, then we cannot actually liberalize the choice of letting the customer to choose which horse that they want to follow. If we provide an image of very high resolution then you can actually zoom in at your own choice to follow whatever horses and which part of the races that you want to watch. That is the next things that we are targeting to do.

Then the future approach we are also looking at using augmented reality to make our pre-race program much more interesting. Well, we want the presenter to interact with the computer-generated image. Then maybe pull the horse out and then analyzing it's physique so that they can actually look at whether the horse is billed as a stayer or the horse is being billed as a sprinter by actually showing you the 3D model of the horse in front of him.

I'm gonna share with you some of the potentials that could be done through the augmented reality technology. This is actually a program in Beijing. They're using augmented reality to enable the presenter actually to come out from the helicopter and then to talk to you about the military innovations. No matter what we do our target is to unleash the power of choice to liberating our viewers. Instead of pushing information to them we want them to pull and then to pull the right information for themselves.

Then to let them have the choices of watching whatever horses that they choose to watch whatever camera angle that they want to watch. Then to be part of the game, to feel engaged and then to feel that they are participating in the racing track instead of just sitting in front of a TV screen. The technology is always an

enabler to let us to do augmented reality, to let us to enable the stitching of 4K images, to allow the customer to choose to pan and zoom by using their digital devices.

Then hopefully you would not be waiting in front of your TV screen to wait for your horse to come out to the paddock. We would let you to choose your own starter, and then look at the horses while they're in the saddling stable or while they are actually parading in the parade ring. That is the ultimate goal of how we would like technology to help us win.

I'm hoping that our sharing today would be actually enjoyable and useful when you plan your upcoming strategies. What we are trying to do utmost is to stimulate interest and then to stimulate viewer participation in the horse racing sports by providing to our customers what they really want. Let them choose. This is the most important thing.

No matter whatever strategies — no matter whatever strategies that we want to deploy or to develop, let them choose is the most important thing of customer-centricity. We always put our customer as the primary focus, and then we look at things from their point of view instead of from a top-down decision platform. We collect their demands. We collect their comments. Then we sit on their chair thinking of how they want this to be done and how they want the information to be deliver and how they want the program to be packaged.

Customer-centricity is the most important philosophy that the Hong Kong Jockey Club is deploying in developing our next TV technology as the enabler. How we develop our approach in our TV program and in our live coverage and also in our Second Screen approach. Okay. Thank you all. I hope you enjoyed.

[Applause]

**Mr. Doug Reed:** Okay. Go ahead and turn Oonagh on. Flipped her on. Oonagh, can you hear me?

**Ms. Oonagh Chan:** Yes, I can hear you. Good evening, ladies and gentlemen. I'm Oonagh Chan from the Hong Kong Jockey Club.

**Mr. Doug Reed:** Oonagh, first of all I wanna thank you on behalf of everyone here and especially considering two things. One, the early time over there in Hong Kong. We appreciate you being here right before our cocktail hour. I also wanna thank you because I know you have some big races comin' up. Bill Nader told me I couldn't steal her and bring her here which I would've liked to done because she has tremendous amount of expertise in these areas. I hope you come up with some questions.

Please come up to the microphones and queue up there with your questions for her. I'll start with one question, and then hopefully you guys will help us out with some other questions. My question, Oonagh, I think is on the Second Screen technology

that you were talking about. I'm not sure. I think my question is can you do some of that live? My example would be if you had multiple cameras say in the paddock area where the horses are saddling, could the customer choose which camera they wanna watch and see maybe the horse they wanna see rather than what's on the live or the simulcast feed?

**Ms. Oonagh Chan:** That is actually our next phase of working on the Second Screen. Next September which is coming up pretty soon we are going to actually modify the application and change it into a native app in which we will actually expand it's video capability. We are trying out quite a number of things right now. Tonight after the four international jockey championship races we are going to put up simultaneously multiple camera which occurs parallel on the screen. When you actually watch the replay you can already see four different camera angles on the Second Screen and other things that we are actually testing to see how the customer feedback would be.

In coming September we are going to actually modify the app, change it into a native app, and then expand it's video capability by putting more and more preferably live video onto it and also multi-camera angle. Responding to Doug's question on multiple camera for the parade ring. On the face of the Second Screen we are doing something called the Immersive 360 which is a much larger scale. I hope you can see this camera which is a dome attached pretty much to the iPhone.

**Mr. Doug Reed:** They can see it real well.

**Ms. Oonagh Chan:** Yeah. The Immersive 360 camera is actually allowing the camera to capture the parade ring in a 360 degree, so that all the horses inside the parade ring — can you hear me?

**Mr. Doug Reed:** Yes. Yeah. We can hear you great.

**Ms. Oonagh Chan:** When the horses are parading in the parade ring we can actually cover them all instantaneously. Then on your iPhone or on your iPad once you download the app the video will be live stream to that particular app. Then when you actually move yourself around, face on your viewpoint you can actually watch the horses even behind you because of the 360 degree camera which is actually very similar to this little thing that I attach to my iPhone. You can also by swipe through the screen and choose the horses that you watch. That is on the phase at development plan of our Second Screen.

**Mr. Doug Reed:** How about the audience, do you have some questions for Oonagh? Please come up to the microphone and just state who you are and what company you're with. Yeah. We got someone headin' to the mic. Hold on. Yeah. Again, my camera isn't wide angle enough to see everybody, Oonagh.

**Ms. Oonagh Chan:** No problem.

**Mr. Doug Reed:** Here he comes.

**Mr. Micah Lloyd:** Hello. Good morning. Thank you for joining us. My name is Micah Lloyd with Sportech. I was curious if the additional technologies if you have any data or metrics that show how this helps the bottom line in terms of wagering, if there's any direct correlation that you can share with us.

**Ms. Oonagh Chan:** Currently, I do actually have a very solid paper to support the application of technology. However, just to quote a little bit of the information for you. For the Second Screen, in a chat room, we actually developed [inaudible] is over 3,600 participating in the room. It's quite a huge number of people interacting with each other, as well as the presenter regarding their interests on the horse racing. Well, for the bottom line, the Second Screen app objective of the Hong Kong Jockey Club in deploying the Second Screen app is to continue to grow our customer base. Especially when our customer are getting more senior and their disposable income is kind of [inaudible] we have to actually tap into the digital age and the younger generation who are digitally oriented.

That's why we, in the past three, years not only we deploy the Second Screen we also deploy the Racing Touch which is actually a more effective way to watch the race card and understand horse form. We also put in a video library of morning track work and the previous racing performance of selected starter into our app.

The target of deploying so many different digital approach to our customer is to actually expand the customer base as well as to kind of penetrating to those people who are not used to the conventional way of reading a race card in the printed form or to watch conventional TV. What we are doing, well, instead of just to push the product is to actually expand the customer base first and in growing their interest. Then eventually they would be incubated as our customer in a more hardcore betting sense. Did I answer your question?

**Mr. Micah Lloyd:** Yes. Thank you very much. Appreciate it.

**Mr. Doug Reed:** Okay. We have another question in the back.

**Mr. Vin Narayanan:** Yeah. Hi, Vin Narayanan in Casino City. What sorta usage data are you seeing on the stitch together 4K images cuz those are really cool?

**Ms. Oonagh Chan:** Right. Okay. Well, when we actually explore the 4K stitching thing actually it's already done in Australia for rugby. What they do is after they stitch the two 4K cameras actually the customer can expand and then look at the players that they are interested in. Similar when we actually test the 4K stitching technology in our mind is to actually have the racing stewards to choose a particular part of the race that they want to have a closer look of how the jockey is riding and how the horse is performing. That is pretty much a test for our video control service providing to the racing stewards.

However, after we tested and then we also test it with some of our customers. The customers are actually very interested to actually look at the whole race with a

stitch up 4K/4K totally 8K video so that they can actually choose to expand into their own horse instead of just looking at the usual coverage or covering all 14 horses or in the U.S. even more. The horses would be much more smaller. They can expand and then just follow their own horses by actually swiping through the tablet screen.

We would be actually doing more and more technology tasks on those areas because 4K technology is getting more and more mature. We've more peripheral equipments available. It would be maybe another two years down the road because we are still in the process of migrating all of our production system into the high definition world once our new studio and our new facilities are built by middle of next year.

**Mr. Vin Narayanan:** Okay. Thank you.

**Mr. Doug Reed:** Okay. I think we have another question. Go ahead.

**Mr. Bryan Bloom:** Thanks, Doug. Bryan Bloom, Bloom Squared. In your opinion of all the different installations you've seen which particular camera angle or view is the most popular for racing fans? I'm talking about view to the jockeys, view to the race, the paddock. If you could just choose one that would increase the fans' excitement which angle or installation would that be?

**Ms. Oonagh Chan:** Okay. If I have a choice I would choose the POV shot of following my own horse. That means if I can install — for example like in Hong Kong we are running 14 starters in Sha Tin. If I can install a POV camera on each of the jockey's helmet, and then each jockey would be able to view the horses in front of it except the winner, right? Then I can actually choose the various viewpoint to follow the horses through all through the race. That would be the ultimate liberation of customer's choice. That is from my personal point of view.

We've been testing quite a number of helmet cameras, but because of stabilizing problem — I mean, we work with a company who produce the camera for the Formula One racing. Then we witness how they actually do their Formula One in Abu Dhabi. Then trying to deploy the technology we do tests in Sha Tin. However, because horse racing is kind of really wobbly, if you follow the race by a helmet cam all through for 1400 meters, you become very dizzy.

[Laughter]

**Ms. Oonagh Chan:**

[Laughter]

Then once the stabilizing issue can be resolved, I think the outset to provide the customer their own choice to follow their horse around the racetrack.

**Mr. Bryan Bloom:** Thanks, Doug.

**Ms. Oonagh Chan:** Did I answer your question?

**Mr. Bryan Bloom:** Kind of. Thank you.

**Mr. Doug Reed:** Yes

**Ms. Oonagh Chan:**

[Chuckle]

**Mr. Bryan Bloom:** Yes.

**Mr. Doug Reed:** Are there any other questions for Oonagh? I think someone's comin' to the mic so hold on. They're from the back of the room.

**Ms. Rose Rossi:** Good morning. I just wanted to — it's Rose from Rocky Mountain Turf Club in Alberta, Canada. Thank you. This actually totally excites me. My question is if you are following your horse — and this is great for the students of the university. This is so exciting. Can you replay on this app or can you go back and watch it?

**Ms. Oonagh Chan:** Yes. Actually, once you do a live coverage — well, normally what we are doing is we store it in a server which is quite big already. Then we also use external streaming facilities like Ecamayer to actually store our video. Afterwards you can actually do a time shift and then replay it onscreen. It's no problem at all. We work with NOW TV in Hong Kong. They're doing quite a lot of [inaudible]

Even when [inaudible] right now if you miss the start, when the start if off [inaudible] you can already [inaudible] and then go back to start and [inaudible].

Time shift technology is actually very [inaudible]. That is why we also partner with NOW TV and rely on the technology and they are one of our [inaudible] paid TV chapter Hong Kong. When you're asking if you can actually watch the replay we are not just doing a replay after the race. We are actually using time shift technology and doing the replay just — well, once for the first 100 meter you can actually go back and start and watch the start. It's actually quite popular with some of our prime customer because you have to pay a subscription fee to actually watch the race live on the NOW TV app.

**Mr. Doug Reed:** There were a couple times she broke up. Did you want her to repeat anything or did you get — I know there was a —

**Ms. Rose Rossi:** Do I dare?

[Chuckle]

Do you wanna repeat? Do you want to repeat?

**Mr. Doug Reed:**

[Chuckle]

Was there a part of that that you want her maybe to touch on?

**Ms. Rose Rossi:** I mean, we did lose quite a bit of —

**Ms. Oonagh Chan:** Okay. I'll try to do it slower.

**Mr. Doug Reed:** That'll help.

**Ms. Rose Rossi:**

[Chuckle]

**Ms. Oonagh Chan:**

[Chuckle]

In Hong Kong we actually partner with NOW TV which is a pay TV company. We license our horse racing IP right to them and then ride on their time shift technology. What they do is on their NOW TV racing app once the race starts say after 50 meters you can actually already go back, watch the start again. It's actually very convenient.

**Ms. Rose Rossi:** Thank you. Very excited. Thank you.

**Ms. Oonagh Chan:** Come to Hong Kong.

**Mr. Doug Reed:**

[Chuckle]

**Ms. Rose Rossi:** I would love to.

[Chuckle]

You come to Canada. You're always invited to Alberta.

**Ms. Oonagh Chan:** No problem.

**Mr. Doug Reed:** Are there any other questions for Oonagh? Raise your hand and I'll give ya time to get to the mic if you have a question. Oonagh, I wanna tell you a couple things real quick before we sign off. One, you told me it was difficult to make your video without a live audience. I think you captivated them pretty well,

and they even got the humor. There were a few laughs during it. Particularly when you mentioned about people being engaged in multitasking and being on their phone and tablet and probably not listening to you, I think that got the largest laugh.

**Ms. Oonagh Chan:**

**[Laughter]**

Okay. I wish you all enjoy your cocktail hours and have a nice evening.

**Mr. Doug Reed:** Thank you.

**[Applause]**

**Mr. Doug Reed:** We wish you the best of luck with the international races comin' up this weekend. Please give my good friend Bill Nader a hello, and again, thank you very much.

**Ms. Oonagh Chan:** Okay. Thank you. Thank you all. Thank you for your time.

**Mr. Doug Reed:** Thanks. Well, thank you guys. That kinda ends the session. We appreciate your attention, and we'll see you at cocktails.



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