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New Ways to Look at Numbers

MODERATOR:
Dick Powell, Senior Vice President, Marketing & Industry Communications, Racing & Gaming Services, Inc.

SPEAKERS:
Marc Attenberg, Founder/CEO, Real Time Racing LLC/TimeformUS
Patrick Cummings, Director, Racing Information, Trakus
Dave Siegel, President, TrackMaster, an Equibase Company
Fernando Vincenzini, COO, Autochart LLC

Ms. Liz Bracken — We do wanna do this concurrent panel, which actually, the last panel was a good lead-in to this panel as we talked about horse players and horse players that need data. These gentlemen are gonna talk about that data and how it is provided to them. Our panel is "New Ways to Look at Numbers". We wanna thank the sponsor of this panel, which is Racing and Gaming Services. We also wanna invite all of you to lunch after this panel at 11:30 a.m. in Canyon Two, which was where you had breakfast. It's right next door. We also wanna thank our sponsor for lunch, the Stronach Group.

Now I'll introduce our moderator, who's Dick Powell. He's no stranger to me, as I've worked in New York racing for over 16 years. He's been a horse racing consultant, an advocate for the horse player, and was instrumental in assisting with getting the VLT legislation passed in New York. He will introduce the rest of the gentlemen and take you through the panel. We appreciate you being here.

Mr. Dick Powell: Thanks, Liz. As someone who grew up in Staten Island, New York, I will try not to mumble, no F-bombs. Perhaps I'll forget about it. You all can read, so the speaker bios are in there. We wanna make sure we have enough time for discussion at the end. This is a great panel topic. When Doug asked me to do it, I was real excited about it cuz it's something that I do and think about, and have mixed opinions about stats, data, whatever you wanna call 'em, numbers. We have too many stats. Does it make the learning curve already steep enough for newcomers even worse? The higher the number, the better the horse. The lower the number, the better the horse. Do we have enough stats? What do we do with them?

US racing is data rich, but our per capita wagering is woefully low compared to our friends in Europe, Australia, and Asia. We have half the horses we had 25 years ago, and they run half as much. Breeders Cup starters last month averaged one prep race per horse. Some trained up to the race. A couple had two prep races. After prep race came up wet, yielding turf, any extenuating factor, how do you gauge the horse's fitness for the championship race of the year? That's what we and the cappers have to analyze now. We're lookin' at things with very small sample sizes. There's a reason the condition book is two weeks. The horses used to run back in the next condition book.

[Laughter]

Now condition books probably should be six weeks. That's pretty much when a lot of these horses come back. We have fewer races to analyze to determine a horse's ability and patterns of their performances.

Question is, are we handicapping horses or people? Jockeys, trainers, owners, they all play an important role and, perhaps, an even greater role as horses race fewer times and we have fewer events to analyze in our handicapping. I work for BRIS. I'm a handicapper for BRIS, but mark with Trackmaster. I wouldn't look at a standard bred race without looking at Trackmaster. That stuff is tremendous. DRF Formulator, Thorograph has great people statistics in them. Many of the providers have come up with ways of analyzing the people involved, not just the trainers, jockeys, but even the owners. I handicap every race at NYRA for brisnet.com. I use the ultimate PPs. We give you detailed information on the trainer, jockey, sire, and dame. In New York, 20 to 25 percent of the races are maiden races, many first time starters, so not much to look at as far as the horses' past performances.

Trainer debut, win percentage, second time out, first time Lasix, drop to maiden claimers, first time turf, first time long, jocks with their trainer, turf, dirt, long, short, sires with first time starters, dame production stats. These are all the things that go into handicapping. More and more of it seems to be focused on the people. We have statistics, but we're lookin' at different statistics than historically horse players used to look at. Our panel is well-prepared to discuss these issues. I think we'll have some disagreements. I hope we can have a nice discussion among ourselves and with the audience, cuz there's a lot of ways of lookin' at these issues. There's no set way. There's no right way. There's no correct way.

Our first speaker is gonna be Marc Attenberg. With Timeform US. Timeform is a well-known company in the UK. They've now expanded into United States. They're the definitive race, how will you call it, a horse rating system in the UK. They rated Frankel as the greatest horse ever. If you don't believe that, 14 brute mares have been sold this fall, in fall of Frankel, for $1.7 million average.

[Laughter]

I think the buyers out there agree that Frankel might be the best we've ever had race. They've now come to the US. They combined the Timeform figure with pace, but I'll let Marc go into all that. Marc Attenberg

[Applause]

Marc, did I get your name right?

[Laughter]

Mr. Marc Attenberg*:* That's all right. That's all right. Good morning. As Dick mentioned, we have a tremendous amount of data in US racing which is consistent with what my coworker said about this presentation. They insisted I shorten it a bit.

[Laughter]

All this racing data, if it's delivered in either a too raw or too sophisticated format, it can be difficult for both new and long-time customers to understand. Even if you can get it and understand it as a sophisticated customer, the length of time it takes to get there is — it's quite a while. This sort of — this digestion process, today I wanna discuss some prospective cures for indigestion. I'm gonna take you through our value proposition and get into the challenge of visually representing past performances to make it easier for all levels of players to bet comfortably.

I'm gonna take you through some different ways of organizing racing's datasets to help crisply explain the narrative of each race. I'm gonna conclude with what we're working on next for both core and new customers. Our value proposition is to understand races faster. Each of those words sort of means something important to us. Understand, every race has a learning curve for both new and core customers. Racing data offers fresh opportunities to speed up that learning curve. Just to talk a little bit about the learning curve, you can look at a race and handicap it in 45 seconds. You can handicap it in 45 minutes, depending on what of player you are. Both of those experiences can be sped up.

Races. For racing to thrive, racing data must be engineered to provide a compelling narrative before races are run. Keep in mind that every race is a story about to unfold in one to two minutes. Our job is to engineer this race, this information, into a compelling narrative. That's where the opportunity is with racing data. Then, faster. By faster, we mean make the digestion process faster, just as the internet's evolution has made the consumption of information faster. How do we speed up digestion? I'll give three ways.

One is color coding. I'll talk a little bit more about that and about resisting temptation. A second might be harmonized, easy to understand figure scales. Instead of having five or six different scales of figures, to actually narrow down the figure scales in a way that's much more digestible for a new customer, but again, for the existing customer and the learning curve for the existing customer. Three is

visual narratives which I think are tricky, but I think it's what you gotta do. It's really what's happening in the rest of the internet in 2013.

This is just a few examples of visuals that I thought didn't work that well. I just wanted to acknowledge how hard it was to color code. Now, my eight year old daughter probably likes the visual on the right. I don't eat blue cake, so to me, I don't really get it. Bottom left, I don't know if Stephen Kennelly in the room. This is the Dublin bus map on the bottom left. I thought I wanted to go to Dublin. I now have less interest in going to Dublin. There's some racing data top right — or top left, rather. For core customers, you gotta use color coding in a way that's a little bit more rational. For core customers, look, green equals turf. It's unbelievable how rarely we see green equal turf in racing data.

We do this in our past performances. These are our running lines. When you look at them, instantly you can tell if a horse is moving from dirt or turf or synthetic, that we have three different colors that we use there. You could probably figure them out. The fact is, it's very visually clear and we basically immediately have told this customer, "This horse ran a 71 on the turf." You can see the red that we're using underneath the — for the fractions. That's telling the customer that the pace of that race was hot. Think about all of this very sophisticated algorithms, but at the end of the day, really all the customer wanted to know was did they go fast early? By using the color red, we're able to take our pace figures, sophisticated algorithms, and that's the trick is boiling it down into something that makes the ruddick that much more usable.

For all customers, not just core customers, we need visual narratives that are a little bit more like this. This is our pace projector. The faster your customers could understand the narrative of a race, the easier it is for them to wager on it. This time we use racing data and step away from running lines to create something new. Using pace figures and algorithms, weighing running styles, post positions, and field size, we've created one of our most popular features and we're helping the customer to understand our projected narrative of the early part of a race. It's gotta be a story. This is where the story is. This is the way we think this race is gonna lay out. When you bet on a horse, whether it's for the first time or the hundredth, you should have some idea that if you're bettin' on the ten, the idea is he's gonna come from the back and circle the field.

Little bit more on pace projector, how the pace projector works. It projects the position at a quarter mile in sprints or half mile in routes. It automatically updates after scratches and surfaces changes. That's the way modern data should work, right? If it's 15 minutes to post and a rainstorm hits at Saratoga, and they move from grass to dirt, which happens — didn't happen too much this last meet, but certainly happened to all of us in the past, you really should be in a situation where the pace projector will actually — and where racing data, itself, will adjust to that. That's what the pace projector actually does.

Its current efficacy, I wanted to talk about how effective it is. It's most accurate in predicting leaders in dirt sprints, at 64 percent. It's least accurate in turf routes,

probably because jockeys tell trainers to take back in turf routes and there's not a lot we can do about that. When you think about the current efficacy, think about your efficacy. If you're actually trying to figure out the early part of a race and how that race is gonna lay out and what the pace is gonna be like. Are you spending five minutes on that, seven minutes on that, three minutes on that, ten minutes on that? If you're new, you have no understanding of it. The idea is to accelerate the process, to use very sophisticated data, but to deliver it to people in a way that basically provides a shortcut that is helpful.

I've got one last thing on pace projector. This is sort of the exhibit A. Brian, I don't know if you can hit the video on this back there? Here we go. This is the Queen's Plate. I just wanna talk about a few different things that happened in the Queen's Plate. It's sort of a love letter from racing data to its customers, whether they're new or core. Here, we're showing you the one is gonna be alone on the lead. You can see that in the pace projector. We're telling you that the race favors front-runners. You can see that above the pace projector. Whether you're new to racing or whether you've been playing for a long time, you've been told the race favors front-runners, and this one is gonna be alone in the lead. The one happens to be about 17 to 1.

Here, track, it's just telling the story that we laid out in advance. This one is in the lead. The 12 is hung wide. It's a pretty strong narrative in tandem. We told you in advance, and that track's actually delivering the data on the screen. We're telling you, also, that the seven is a deep closer. You can see that in the bottom left of the pace projector. The seven's the race favorite, so when you're watching this narrative, you're actually watching for the seven coming, trying to get the one. You got a story that's been laid out for you, regardless of the outcome, whether you're seven's gonna get up or not. As maybe a few of you remember, the one held on. It seemed like everybody who worked for our firm got paid double that week.

The power of pace projector is its digestibility. When we're talking about digestibility, raw data can cause indigestion. Yeah, maybe some of you in this room like to figure out raw data and you think that's part of the fun of the game. It's really not how people consume information so much these days. Raw data exists to be converted into meaningful and useable ratings. It's great that we can do something sophisticated with it. If we can't convert it into something that's really to digest, you're gonna have problems with new customers, and again, you're gonna have problems with core customers who are spending a long time figuring out races. Speed figures were just the beginning.

Which of these is easier to understand? Look at this guy on the left, kind of a lot of flat numbers across, not really sure what it means. I really don't know what the 66 percent means. This is our trainer ratings. Our trainer ratings are based on five years of data. They're really sophisticated. I'm not gonna go into everything that goes into them, but basically, we've distilled Joe Woodard down to a 91, and we run these both overall for trainers, but also specifically in situations. The fact that Joe Woodard is 50 out of 100 with first time claimers as opposed to 91 overall, first, that gives you something — some context. On the left, I just don't really know that

this is the kind of way that people are consuming information in 2013. The goal is to make this sophisticated digestible.

We use two scales. We use 100 points for most ratings. One to a hundred, it's kind of easy to understand. It's amazing how little of that you actually see in racing. We do use the Timeform Global Scale for speed figures. As Dick mentioned, we're harmonized with Timeform. We work with them on a daily basis on this. The idea here is to make shippers easier to understand. Someone comes in from overseas, instead of looking at different sets of speed figures, we're basically doing as much as we can to actually have their figures and ours on the same scale so you can see whether a horse has an advantage or not. It seems like a lot of the European shippers in the Breeders' Cups did seem to have an advantage.

What's next for us? A couple things. One is to relentlessly improve our core product. We need to get faster so we can compete with paper. We're continuing the enhancements to our user interface, again, to compete with paper. Today we introduced pace figures, and we're gonna introduce live odds in a very intuitive way soon. The idea is to just relentlessly improve. Again, we're ready to take it to the next level and actually build wagering tools integrated directly into our interface to help make it easier and faster for players of all levels to bet smartly, to make the game more fun, to make the game easier to digest.

Finally, I wanna mention our new partnership. We've got an exclusive partnership with Ragozin Data to build Ragozin PPs for the high end data market. We'll be building out a version that's really kind of exclusively theirs, but yet it integrates the best of our architecture into PPs that display Ragozin sheets numbers for the first time ever. We're humbled to work with such important innovators. Thanks for your time.

[Applause]

Mr. Dick Powell: Thanks, Marc. That was great. I promised no F-bombs, but I got Marc's name

[Laughter]

wrong. Marc Attenberg. All right, next speaker. David Siegel is with Trackmaster. I don't wanna typecast him into Standardbred racing cuz they do way more with Thoroughbreds and I think even Quarter Horse racing. Their Standardbred stuff is just sensational. I mean, I've never seen anything that tells me the wet track win percentage of the sire of a

[Laughter]

Standardbred horse that they're able to come up with. They do an awesome job. They have a great product, and David will tell us about it.

Mr. Dave Siegel: Thanks for the kind words. Good morning. At Equibase and Trackmaster we continually look for innovative ways to create, display, and disseminate data for both handicappers and general racing fans. Technology is changing very quickly, so we spend significant time staying up on the latest that technology has to offer and in bringing the best of that technology to market. Recently, we underwrote a survey to help ourselves better serve the industry. Let me share a couple of interesting observations that relate to today's topic.

While traditional past performances are still the most demanded handicapping product, note that for young adults, only about half prefer that format. Newer generation displays, including graphs, tables, charts, narratives, are gaining in popularity amongst that demographic. Related to this trend is the actual display device that handicappers are using. While PCs are still preferred, note that smartphones and tablets are each used by about 20 percent of our players today. This number was zero just a few years ago. Central to new numbers and new ways to portray those numbers is the devices upon which such displays will be viewed. The industry must respond to these trends, and Equibase has.

In addition, Equibase plays a central role in this arena through partnerships with industry stakeholders, some of which are on this panel.

For example, Timeform is a licensed Equibase data reseller.

We have worked with Autochart in reviewing their systems output.

In particular, Equibase has worked closely with Trakus over the years initially performing quality assurance on their data and, over time, integrating the Trakus points of call data into the Equibase database, which in turn gets disseminated throughout the racing industry.

Equibase continues to support and invest in new technologies and carefully listens to the marketplace. Such efforts result in cutting edge, free offerings for our fans and sophisticated handicapping tools for our players.

Over the last couple of years, Equibase has collected and disseminated some new data that our fans have told us they desired. Turf rail and run-up distances were added as part of every chart and past performance line. Correct run-ups had a profound effect on the making — on making the Equibase speed figure that much more accurate. In addition, races where horses were scratched are now included in all of our past performance products.

On a centralized basis for all North American tracks, Equibase collects and disseminates scratches, changes, and weather information through its website and many of its resellers so fans can have up-to-the-minute information.

By the way, this particular service was suggested by HANA, who we meet with periodically to get a better sense of what their members are thinking. This real

time information is then reflected in Equibase and Trackmaster apps, as seen here in the Pocket Handicapper.

Equibase's database in the cloud, serviced by Amazon, allows fans new ways to look at racing statistics from graded stakes winners to maiden special weights at local tracks. We launched in 2013 this real time, free service, makes thoroughbred racing competitive with other major sports that offer similar up-to-the-minute statistics. Called Stats Central, it allows fans to slice and dice horse, jockey, trainer, and owner information, allowing hundreds of combinations of queries and sorts from the industry's official database. Users can move from drilldown lists to specific information and histories for all of the connections.

One of Equibase's objectives is to develop data displays that are comfortable and inviting for newcomers to our sport. We recently launched Entries Plus, a free offering which includes a variety of classical racing data formatted into a series of graphical and easy-to-understand displays. The initiative was designed to work effectively on the PC, tablet, and in mobile environments. As demonstrated by the survey I referred to earlier, positioning for mobile computing is very important to the future of racing. Equibase has invested significant resources in this regard through making racing data available through its Today's Racing application which features entries, results, and free handicapping aids like Entries Plus.

Expanding its presence even further in the Standardbred world, Trackmaster recently introduced harness entries and results on its mobile site. Recognizing that new displays cannot ignore seasoned handicappers, Equibase and Trackmaster merged traditional handicapping with new-age technology by developing IPPs, product for both thoroughbred and harness racing. This app allows traditional past performance products to be marked up and annotated in a variety of ways. The app and its data downloads are available through Apple's app store. This distribution approach has a higher likelihood of penetration over traditional channels as young race fans favor this door over industry-based websites.

Recognizing the tremendous growth in smartphones and tablets, Trackmaster developed the Pocket and Tablet Handicapper for the more serious player on the go. These Android and Apple products include contemporary data displays, drilldowns to detailed statistical information, along with traditional past performances. Upgraded offerings of smartphone and tablet versions of these products that will include harness racing will be released in the next couple of weeks.

Finally, pushing the envelope on quite a different way to display data for all screen sizes, Equi-graphics was launched in the middle of 2013. This cross-platform offering uses businesslike graphical displays to communicate essential handicapping information to the mid-level to serious player. The product focuses on how a race will take shape through the early, the middle, and later stages of a race, and dovetails nicely with its included traditional past performances in a variety of formats, combining current technologies with old school reference capability.

While we have spent energy on addressing new ways to look at numbers for both racing fans and handicappers, we have also expended the effort on new ways to leverage existing data for racetrack benefit. Trackmaster is working jointly with the USTA to develop an automated morning line. We expect this project to be completed in early 2014. It will have the benefits of speed, reliability, uniform applicability, and provide potential savings to racetracks. Tracks will have the option to use the computer-generated lines, edit such lines, or use their own lines. Detailed study for two years of data showed that on average the computer-generated lines were measurably more accurate than those created by humans.

Finally, expanding on the notion of leveraging and enhancing existing data, Trackmaster has just completed the development of a video-graphic data file which will allow harness tracks to choose from a plethora of relevant data to improve their broadcasts.

Taking pages from other major leagues sports that can afford statisticians assigned to their broadcasts, we have automated the calling of interesting horse data to provide a new standard of on-air display, as well as what many would describe as color commentary without the overhead of a human commentator. This new look at existing data is currently in beta testing at two harness tracks, and we expect it to be offered to the industry in the early part of next year.

Equibase continues to lead the industry through technological and market-based innovation, and supporting racing through our strategic partners. We will continue to develop cutting edge offerings to support our fans and sophisticate handicapping tools to support wagering. Thank you for your attention. I look forward to your questions, which I urge you to ask during the upcoming panel discussion.

[Applause]

Mr. Dick Powell: Thanks, David. Next speaker will be Fernando Vincenzini. Fernando is the president and chief operating officer of Autochart. We'll talk about the company's wireless, solar-powered, portable time and tracking system, which I hope Fernando can answer my obvious question, does it work at night?

[Laughter]

Mr. Fernando Vincenzini: Thank you. Let's get this computer here. Hopefully I'm all set up. Is it coming? Good enough. Yes, that's okay. I don't wanna mess around. Okay, that's good.

[Pause]

Great. Good morning, everybody. Thank you for coming. My name is Fernando Vincenzini, and I am the inventor of Autochart. We founded this company in 2000 and created it specifically for timing and positioning horses during the race with the criteria that the data captured needed to be photo finish accurate. It would replace the existing timing system at the racetrack so that there would be a saving by the

racetracks, to incentivize them to turn to the technology. It also offers a proprietary graphics component, and it captures automatically the data of all horses at points of call.

The system is a wireless solar solution, installs in only a few hours. There is no wiring or infrastructure that is needed. The capture frequency or granularity that you can set on the data could be as continuous as — continuously as 100 meters or one sixteenth of a mile, or one eighth of a mile apart between points of call. That means that you can have data points set up to capture the data of the horses every few seconds. This data is gonna be accurate at all points of capture. The system is very easy to set up. It features — it works right out of the box.

The captured data is — consists on the crossing times of all horses, expressed in milliseconds. The instant speed that is captured at every horse at the point of crossing each point of call, pretty much like if you would be seeing a policeman tracking with the — tracking the speed of a car. The segment speed and the XY position of the horses at the point of call. That would be the distance from each other and the distance from the rail. This will give us the trip information for each one of the runners.

The output on the TV displays are — we offer an enhanced full field running order which can be configured differently for every track, since we have the ability to quickly initially select the data elements that are going to be shown in real time. The fractional time lines also produces instant order of finish and enhanced graphic recaps after the race. As we can see, for instance, on this screen cap here, we are showing the running line on top with the margins, a trend graph that is being drawn in real time measuring the speed performance of the horse as the race progresses. This is a leader's status board that comes in and out, and then the fractions for all points of call.

In the post-race analysis you can see, for instance, the e-photo. Our system works similar to a photo finish system. As the horses express their position as they're crossing the points of call, the system draws pretty much what it would be a photo finish result. At each point of call, you can see a very accurate depiction of the distance between horses as they're crossing.

On the second, the Autochart overlay lets us do an analysis of the top three finishers where you can overlay the speed performance, in this case, which one of these horses through the race. You can see that they peaked at the quarter mile. Another horse has peaked at the three eighth of a mile. The number two peaked at the three eighths. We're also coupling in this slate the last furlong, the time for the last furlong of the horses, their speed at the finish, and the maximum speed of the race, and then the distance over the race that each one of the horses has done the race in.

Also, another data component that I think that could be very, very important for bettors is the results on workouts. Our technology is very, very good for timing workouts because if you can get information on a workout of a horse, how the

horse develops the workout over a period of, let's say, half a mile or three quarters, and you're picking information on these horses every sixteenth of a mile, that could give you a very good line as to how the horse picks up speed, how exactly that horse is being manipulated on a workout. This could be done even if — you could have a hundred horses on the track working out. Only the horses that actually have the sensors are gonna be tracked automatically. The information is gonna be fed through the databases.

The system, our technology, can create an animation in near real time based on the data that is being captured. We also can create — we're working on creating animation from algorithms that take — that are going to virtualize a race. Looking at past performance of the races when we pick up information of past performances of horses that is stored in our database, the system is going to use this information to create an animation of what a race between this different number of horses may look like. We just give the bettor another way of looking at the future of the race.

We also like to look at data reduced to an expression that can be very easily assimilated by especially the new player. This is a past performance curve on a horse. We can utilize any number of data points, like finish speed in this case, average speed, distance, and finish position to create a curve of the horses so that it will be easier to assign a value number to each one of the runners for a person to be able to make a decision quickly. This is a — well, you don't think my mouse will work?

Mr. Dick Powell: Here it is. Got it.

Mr. Fernando Vincenzini: Just a short video with a short clip with some of the things that we've done in showing data on television.

[Video]

Mr. Fernando Vincenzini: There you see the trend on the graph of the speed of the leader [Cross talk]

[Video]

Mr. Fernando Vincenzini*:* The overall finish is also done automatically. The system just puts it out as soon as it's official. Here you have the margins, obviously, all created automatically.

[Video]

Mr. Fernando Vincenzini: This is the e-photo.

[Video]

Mr. Fernando Vincenzini: This is the overlay.

[Video]

Mr. Fernando Vincenzini: As you can see, the handling of the graphics is got—it could be completely customized for every racetrack, so they can all have their own features for what they want to show and the ability to also utilize logos and sponsor information.

[Video]

Mr. Fernando Vincenzini: You can see here on the timing, we've got—it shows the margin of the horse leading at this point of call, the speed, and the time of the last furlong and then a little rating of whether he's increasing or decreasing speed on the current out.

[Video]

Mr. Fernando Vincenzini: What a finish.

[Video]

Mr. Fernando Vincenzini: This is the speed of the winner through the race at every point of call. This is something we did very early on using database information to show a trend of the horse over the last four outs, expressed on a simple graph.

[Video]

Mr. Fernando Vincenzini: Again, the running order on all the graphics are different for every track.

[Video]

Mr. Fernando Vincenzini: The speed of the winner again. This is a trip analysis of the three finishers, some stats about the race. These are the three — the top three finishers, how they placed during the different points of call. We've been trying to do some stuff, also, online, and this is a chart engine in which we have a chart data window on top. On the bottom part we have a graph overlay window where you can overlay the speed, performance of each one of the horses so they'll be easier to compare. At the same time, you can use the same window to see the trajectory. This will be like a flattened version of the track, so you see where the horses have been inside and outside during the race.

The window on top, it give you the e-photo, so you can see where the position, the finishing position of all the horses are, all the points of call. Finally, you can get all the information of every point of call, whether you have 8 or 10 or 15 points of call, or 16 points of call during a race. You can see the position of each one of the horses at each one of the points of call where you would have also their trip analysis to that particular point of call, as well. All in an effort to just use the

information in a way that will be easier for people to utilize it and to be able to digest it.

In the end, Autochart is not just about displaying data or doing graphics for television. At the core of our endeavor is to actually capture data and create a dataset of developers. People in the industry can then take this information, this accurate information and use it by merging it with other extemporaneous information like weather and track conditions and so on to improve the offerings that they can do — they can have for the bettors. Thank you very much.

[Applause]

Mr. Dick Powell: Thanks, Fernando. Last speaker is a guy, if you've ever been to an international horse race,

[Laughter]

you probably bumped into Pat Cummings. He's everywhere. Even before Trakus was smart enough to hire him and get into some of the things he's gonna talk about, Pat's just a world traveler. I don't know how he does it.

DubaiRaceNight.com is his website, if you follow any international race, and not just Dubai. There's a wealth of data: trainer interviews for the Hong Kong races and Singapore races, whatever Pat's attending. Even if he can't attend he'll have someone filing those types of information. It's just great. If you wanna know who he likes at Maidan, great, but if you wanna know Sharjah and Abu Dhabi

[Laughter]

Pat's on top of everything. Pat Cummings.

[Applause]

Mr. Patrick Cummings: Thanks, Dick, and thanks to Doug for inviting me. Before I really get into the presentation, though, I think it's been pretty clear throughout this that the way in which we are consuming information and consuming data has really dramatically changed.

It really hit me over dinner at Thanksgiving when my 12 year old cousin was there, and someone had brought up a comment about the phonebook. He said, "What's that?" We then proceeded to have a five-minute conversation about the phonebook. He said, "So they actually used to drop a book with everyone's phone number at everyone's house?" "Absolutely, yeah." "Why?" he asked. "You don't need to know everyone's phone number."

I thought, and everyone has touched on it, when we show up to a racecourse and we buy a program, it sure looks like a phonebook. I don't get the phonebook

where I live anymore, so certainly something, I think, to keep in mind. Gonna talk about a lot of things relative to — I think so. Well, guys? Try the other one.

Mr. Dick Powell: This one?

Mr. Patrick Cummings: Fellas? There we go.

Mr. Dick Powell: All right.

Mr. Patrick Cummings: You can just keep goin'. You most have seen what Trakus looks like, and Marc really kinda hit on it. If you've bet on numbers 12 or 6 you know where your horse is. That's really helpful, but horse racing has long been stuck with a challenge to try and show you everything on the screen at one time. In so doing, it essentially shows you nothing. That if Kenny McPeek is in here, he might not necessarily know where his horse is.

Go to the next slide, fellas. Cuz neither of these are working. He's number two down there in the bottom right hand corner. You have seen this, if we — could you just keep runnin' through these slides?

The Dubai World Cup this year, every track has a slightly different display. Hoosier Park recently added Trakus in, in Indiana. Singapore, the Singapore Airlines International Cup, it really is a global company. We just launched a couple weeks ago in Hong Kong with the Hong Kong Jockey Club and just tracked our first series of Hong Kong International Races. With all of this comes the data. This is from the Breeder's Cup broadcast in tracking at Santa Anita. In order to know where the horses are within each position in running, we're also collecting that data. Then it's provided here, as you see, 21 minutes of the next race.

Here's the post-race chart. As it's pretty clear, Tap It Rich, if you're looking for a derby future, covered 57 feet more than his stable-mate, New Year's Day. He was beaten three and a half lengths, but he actually covered 57 feet more than the winner. That equates to roughly six lengths. Was he better than New Year's Day? It's tough to say. We'll find out when they meet again, maybe on the first Saturday in May. He definitely had to cover more ground. He had to use more energy. We thought it was a fairly good performance.

When we talk about performance overall, and we compare racing and how we collect statistics to other things, it can be a bit of a challenge. I wanted to take a look kind of outside of racing here for a second, if we go to the next slide. Money ball. Chris Kay referenced it earlier in the presentation about the importance of data. I wanted to step back for a second and put in a comparison, how much data we have the ability to collect and at least just compare it in America.

From a baseball standpoint, the Wall Street Journal identified recently that the amount of time that the baseball is actually in play is roughly 14 minutes in one game. Next slide, please.

How that extrapolates over the course of an entire season of 2,400 games — go ahead — means that there is roughly 24 consecutive days of statistically derivable activity in the sport of baseball. Go ahead to the next two slides. One more. In America, in 45,000 races taking roughly 85 seconds, the amount of statistically derivable activity is almost double that of major league baseball. Needless to say, they didn't make a movie about the great statistics and how decisions are being made on $100 million plus franchises, billion dollar franchises, but they did it about baseball. Racing, just in America, has roughly two times the dataset on an annual basis relative to baseball. Next, please.

Past performances. We have it all. Equibase has been a partner of ours, as Dave said, in a variety of tracking elements. Within this, if you could go to the next, we have a box in the middle of the screen here of where the information is within the running and what happens to individual horses as they're running. If we think about it, we're encapsulating roughly two minutes of activity in a space that's an inch wide and a quarter inch high. That's a little amount of space for a lot of activity. Is it actually capturing everything that is happening within the race? Let's take a look back to Will Take Charge's Kentucky Derby run. Of course, he has reeled off five really good performances.

The next slide is the individual performance of Will Take Charge within the race. We see a lot of big numbers here, but there is one thing that stands out. After he wins the Clark handicap, D. Wayne Lukas says he'll go to his grave believing that Will Take Charge could have won the Kentucky Derby. I responded in a Tweet. I said, "He can go to dinner knowing that he could have won the Kentucky Derby because the data suggests he was potentially the best horse in the race." Take a look at what happens on the next slide. Arrow. Right here. He was eleventh, eleven and a quarter behind, and at the next point of call he was sixth, five lengths behind.

Next slide?

In the data from the five sixteenths pole to the quarter pole, Will Take Charge had the fastest sixteenth of a mile split. Look at who had the second, third, fourth, and fifth fastest splits. They just happen to be the first, second, third, and fifth place finishers in the race. Will Take Charge was moving quickest. On the next slide we had on the comment line, five wide run check three sixteenths. Within three quarters of an inch became Will Take Charge's destiny. He is the consummate example of bad derby luck, a dreaded disease that strikes every May.

What happened in the next sixteenth of a mile?

Next slide. Will Take Charge went from running the fastest sixteenth of a mile segment to running straight up the back of Verrazano, or more specifically, if Wayne was here, Verrazano came out into him. He was then the sixteenth fastest horse in the race. Within a sixteenth of a mile he was moving faster than the winner, and a sixteenth of a mile later he was moving — if Kenny's here, I

apologize — he was moving slower than the horse that eventually finished seventeenth in the race, who was Frac Daddy.

To the next slide, comparing it, we had Will Take Charge who was fastest from the five sixteenths pole to the quarter pole, and then then next, he was the slowest. That is some bad derby luck. Within the confines of the running line, does that really stick out? Does that really come right out and tell you? A lot is happening in there, and the technology of what we're tracking really, I think, brings that to life. Two slides, please. Now, look. It is horse racing. They don't call it jockey racing for any reason, but I'm gonna suggest that we maybe need to start thinking about that. The title of the presentation being "New Ways to Look at Numbers", we're gonna try and offer something that we think is fairly quite new.

Next slide?

Should we be marketing horses? One of the things that Chris mentioned from NYRA, first up, and it probably went fairly unnoticed, is that the sport should not rely upon a three year old running in three races over six weeks to be a major — whether it's a good year or a bad year, for marketing the sport. In 2012, based on numbers accrued by Equibase, the top 100 highest earning horses compared to the top 100 most frequently raced horses, how often did they run?

Next slide. Six point eight starts for the highest earners, the best earners, the best horses, Zenyattas versus the most frequently raced horses averaging 23 starts a year.

Now, let's just say all horse races take two minutes to run. If that's the case, then the best horses, the most marketable horses in America are running for 14 minutes a year. If you're a fan of the Red Sox, the Yankees, the Orioles, the Blue Jays, any team in the American League East, and you miss one game, have you missed the season? Not a chance. There's 161 others. In horse racing you have. You've missed the entire season if you missed 14 minutes of the highest earning horses in America. Should we be marketing horses?

Next slide.

What about the players, themselves? If we took a look at the top 100 major league players in 2013 and ranked them by the most at bats, the actually average —

Next slide —5 73 played appearances. Now do it to jockeys. How often do the jockeys appear?

Next slide. The 100 jockeys ranked by highest earnings, the best performers —

Next slide — averaged 888 starts. Next two slides. The top jockeys ranked by the most number of total starts averaged 1,003 mounts. Is it really about the horses? Could we be marketing jockeys? Jockey data. Could we create a new bridge to bring new fans into the sport by marketing our most relatable characters?

Next slide.

Next two. Can advanced statistics focused on jockey performance serve as a bridge, and can we create sabermetric-like methods? As it was shown, I think Marc showed it, a line that simply has percentages just doesn't cut it anymore. That's batting average information. That's batting average. Baseball has changed. The sabermetric movements starting in the late '70s, rotisserie baseball, could we end up creating fantasy leagues relative to jockeys based on advanced jockey data?

Next slide.

Next one. That is Calvin Borel. Three out of four Kentucky Derbies. Go back, please, but is he Bo-Rail? Is he Bo-Rail? Does he really save ground? At Churchill the answer is yes, but we wanted to look at his data 50 miles east of there at Keeneland.

Now to the next slide, please. Go ahead one, two more.

This is data that we accrued over four meets at Keeneland. Races at six furlongs, races at a mile and a sixteenth. From the top of the page down, the average winner on down to the average last place finisher, how much ground they covered. Winners covered the shortest trip. Does ground loss matter at Keeneland? Over our four-meet study, the answer is yes. As finishing positions increased we also saw that the amount of ground they covered also increased. That was at Keeneland. Let's go deeper.

Next slide. Next one. Next one.

Post positions. Six furlongs on the left, a mile and a sixteenth on the right. Up at the top the horses breaking from gate one covered the shortest trips. The farther out they go out the gate, the more ground they covered. Look down on the bottom right hand corner. Gate 12, mile and a sixteenth, Polytrack, 5,709 feet. What this is suggesting is that breaking from gate 12 is roughly a four and a half-length handicap, all other things being equal. The shortest trip, rather winners, covered the shortest trip at Keeneland. What we did was we took the jockeys and we compared all of their mounts to these averages. Were they riding above average, below average? Covering more ground, covering extra ground? Again, this was done at Keeneland.

To the next slide.

Lot of information here. Go ahead two more. How efficient is a jockey overall in the aggregate? Are they saving ground? If ground-saving matters, who's saving the most? In this sample, admittedly a small sample size, James Graham, Gabriel Saez, John McKee, they were the most efficient. Down at the bottom, these are the jockeys covering extra ground.

To the next, please.

These were the jockeys down towards the bottom. You will notice the 22nd most efficient jockey, or in other words, the third widest-riding, was Calvin Borel, drawn on gate 12 at Keeneland. You're sitting there saying, "Well, he's got Borel on him. He's going to save ground. That's what he does. Bo-Rail, Boo-Boo. But he doesn't, or at least he didn't. Borel's mounts at Keeneland covered 7.2 feet more than average, roughly three quarters of a length is what Keeneland, or rather, what Borel cost you at Keeneland. As a trainer, shouldn't some of this information come into play? Or is it better if your horse if breaking from gate 12 with Borel, is he going to save ground? Hi, Kenny. You are there. The answer's no.

Next slide. At Churchill we found that Borel actually saved the most ground of the colony. He was worth one in one tenth lengths.

Next slide.

We compared this data to another track. We compared it to Woodbine. On the left, the number of feet covered by horses at Keeneland based on finishing position. On the right was Woodbine. What you'll notice is that winners cover more ground at Woodbine than they did at Keeneland. Until you get down to about fifth placing, that's when things finally start to even out. It almost looks like all horses cover roughly the same trip at Woodbine. It didn't seem to make a lot of sense to us. There is a general belief, an anecdote in my discussions with handicappers and officials at Woodbine, that the Polytrack there plays more favorable to wide runners. Let's take a look at the jockeys at Woodbine. To the next, please.

We took a look at a much larger sample: 508 races over almost 2 years. In that position, in that sample, rather, the top five jockeys actually won 54 percent of the time.

To the next. Here they are. Luis Contreras, Eurico DeSilva, Emma-Jayne Wilson, Jesse Campbell, and Patrick Husbands. In the yellow is what we call the average dealt. It's the number of feed they cover more or less than the average. Put Luis Contreras on your mount. He had the highest winning percentage and he had it by a big space, but he covered extra ground, and a lot of it. Whereas, Eurico DeSilva was almost the opposite, covering about a half-length, or saving a half-length for every one of his mounts. These are very different performances. You see Jesse Campbell has a positive ROI on his mounts at $2.15. Contreras again widing ride, also had a positive ROI. It seemed a little odd, okay? It seemed a little odd to us.

Next slide. Go ahead. Next one, please. Thank you.

We broke it out. What happens when these jockeys win versus everything else? The green columns indicate they saved more ground. The red indicated they covered — red, or the green was indicating they saved more ground, the red indicating they covered more ground. When Emma-Jayne Wilson won a race at a mile and a sixteenth on Polytrack, she saved more ground than all of her other

mounts. Luis Contreras was basically the same. Eurico DeSilva saved slightly more ground. Whereas, Patrick Husbands, that man has not found a rail to his liking yet. He covered even more ground in his races. He is getting older. Jesse Campbell saved a heck of a lot of ground, more so when he won.

Does this really suggest that wider is better at Woodbine? I think the answer's probably no. If you're a trainer or you're a bettor and you think this horse needs to be on the inside, he needs to save ground, and Patrick Husbands is getting aboard him, how confident are you? Is that information really relatable to the current day player? These are just some of the things that we're starting now.

Next slide, please. Go ahead. Overall, here, we saw four out of the five most winningest jockeys at Woodbine either saved similar amount of ground or less when they were winning compared to all other mounts. Go ahead.

Overall, we think the foundational elements for creating advanced data are there. I am a big believer in what Marc said about trying to make it more readily accessible. We literally, from a Trakus standpoint, are just kind of at the tip of the iceberg for advanced information. When it comes down to how do we market this, it's just really a deep-seeded belief that if we go about trying to market this sport through horses, we're really missing a huge element of really the population that's out there, that are our participants. I mean, there is a reason that when the race runs and the jockey is no longer intact with the horse, that that horse's performance doesn't count. I think we really need to look at that in those ways.

Go ahead. Three more. One more. There we go. If you wanted to get ahold of us — go back one slide please — Trakus Racing on Twitter, and we also do pen a blog on America's Best Racing, the Jockey Club's website, that talks about some of this data. We put a variety of case studies up there throughout the year. Thanks a lot.

[Applause]

Mr. Dick Powell: Thanks, Pat. We do have time for questions from the audience. If there's not, we have some questions of our own, but anyone—yes, sir?

Audience Member: [Faded question]

Mr. Dick Powell: It would help if you go to mic so that everyone could hear the question.

Audience Member: Thank you for your presentations, and I applaud your efforts to improve our insights into racing. I do have one caution, though, and that is, as a fan and someone who watches racing on TV and at the track, there's a tendency to have superimposed too many graphics and too many statistics on the screen during a live race, which takes away from the pleasure of watching the race. People are likely to believe that what's on the screen is relevant to the race when a lot of it is just telling us that which we already know, which is fast horses early go slow late things of that sort.

I think it's a distraction for the new fan because they actually think that what they're being shown, they have to understand, and it's relevant. It takes away from the pleasure of watching a race and what might be gained from watching the horses actually perform in the race. Thanks.

Mr. Dick Powell: Thanks. I agree with you to a point, but the development of TV now, is multiple crawls of information across ESPN, CNBC. I mean, I think the audience is getting used to busier video presentation.

Horse players are different. Horse players want the pan shot. God forbid you switch out to another shot during the race. They all scream and yell. Yet, the other angle might give them way more insight into how the race is being run. I think in the future more and more people are getting used to busy video screens, things like that.

Mr. Patrick Cummings: I stood down at — I was at Sam Houston in Texas and there was a simulcast race going on from the fairgrounds. The fella that I was standing next to looked a lot like Peter Rotundo, Senior

[laughter]

from *Horseplayers*, and he was just all in, just flailing away. This horse has opened up by four or five lengths in the stretch, and he was celebrating. He was yelling, "On with the four, keep 'em goin'! Open up!" I'm like, "Dude, that's the 12!"

[Laughter]

My problem is that we need every opportunity to get a multiscreen experience for racing. If you don't have something like what we're offering, the majority of your patrons aren't going to see their bet in action in the way that the race is shot, at least most of the time in America.

I think that is a challenge that we have to overcome. From a new bettor, if you said, "The only time I can really follow my bet, unless he's on the lead, is in the last sixteenth of a mile if I happen to be there standing on track," I want to extend the experience of the race. I want to be race-watching Viagra, okay? I want to make this last as long as possible. If I can follow my horse in running for all 85 seconds, I think that's a lot more meaningful than searching around, cheering for the wrong horse, or following something that I'm really — where's mine? We don't print the silks in the program. They do it in color in every other jurisdiction in the world. I respectfully disagree.

Audience Member: Well, if I could just — I agree with everything Patrick just said. I'm distinguishing between that which helps and averages of phonebook users. We don't want to buy a phonebook.

Mr. Patrick Cummings: I agree.

Mr. Dick Powell: Yeah, there's a clutter factor. Fernando?

Mr. Fernando Vincenzini: Yeah, it's funny. I would go back to a conversation that I had with Stan Bergstein, probably 1999, prior to starting Autochart. He said, "Fernando," because he used to have a running joke with me. He used to call me Renaissance Man. Said, "Fernando, you are my Renaissance Man. Why don't you make me a system that will give me all the running order of the horses automatically so that we can see where your money is?"

It just went off as a joke at that point. Forward, when we started into these development of Autochart, it became apparent that the technology was gonna produce that, right?

I kind of agree with both sides of the story. I love to see horses, and when we get to the point when all horse racing is in high definition, we're really gonna see horses. I mean, you are going to be able to touch the horse on the screen. If you have a nice, big 50, 60 inch plasma screen or LCD screen in your home and you're watching the race, I mean that horse is gonna be in your living room, right?

Mr. Dick Powell Oh, it's [Cross talk]

Mr. Fernando Vincenzini: The data, we have to be able to show the information. We have to travel, I guess kind of a delicate path where we gonna put information in, we're gonna let the fan have some last-minute, real time feedback as to what's going on at the track with the horse. At the same time, we have to step lightly because there are people in this industry who want to see the horse undisturbed. That's the delicate, I think, portion of it.

Mr. Dick Powell: It's an interesting point because if you used to go to the track, most tracks had a binocular stand. I mean, that's how you watched racing.

Mr. Fernando Vincenzini: That's right.

Mr. Dick Powell That's gone. The newer customers do not necessarily know how to watch races. Around the world they do, cuz they follow equipment and silks and they're comin' at you head-on in different odd angles, so you're looking for chestnut with the cheek pieces or whatever it might be, cuz you don't have the angle to see the saddle claw towel or many don't have the color coordinates that we have. They still are able to follow a live race, where the next generation after people my age really didn't learn how to watch racing, so any aid, especially hi-def. I live in Saratoga. I'll go home

[Laughter]

to watch a big race cuz it's on national TV in hi-def. It's just spectacular to watch, so I just think it's great. Ken, you have a point?

Mr. Kenny McPeek: As a horseman, we need all racetracks to adopt this technology.

Mr. Fernando Vincenzini: That's right.

Mr. Kenny McPeek: After a race at Keeneland, the first thing I do is I go watch the replay and you see the track. Cuz I got beaten at the Ashland a couple years ago, a length and a half. The Trakus said I went 67 feet further than the winner.

Mr. Dick Powell: Yeah!

Mr. Kenny McPeek: I'm saying to my jock, "I mean, hey, come on."

[Laughter]

"You just ran the best horse, son." I do think that when I'm watching a race, I'll absolutely pick the number from the Trakus below the screen to make sure that I know where exactly I'm at on it. I do find it very useful, and I disagree with what you're sayin'. I think it's important, but racetracks need to adopt this so it's universal. I know it's an expense and I don't — actually, Pat, I don't have any idea what it costs for it.

I don't have any idea what your fees are, but we need to figure out a way so that it's a standard. High definition, this is a no-brainer. This sport needs high definition so bad that where do we begin? I mean —

Mr. Patrick Cummings: The check's in the mail, Ken.

Mr. Dick Powell: The danger with hi-def is the NFL's on once a week. We're on five, six days a week, a five, six hour window, uplink, downlink costs, and hi-def, besides the equipment to generate the broadcast in hi-def. Gets to be really pricey. For the big tracks, probably yes, for the smaller tracks, I don't see how they're ever gonna do it until the model switches to an internet broadcast where you're getting the feed, not through satellite, but through a high speed internet line, which I'm sure is comin'.

Mr. Kenny McPeek: Well it's good work.

Mr. Fernando Vincenzini: One point, also, is that because of the way horse racing has developed as a business in the United States, and we have these sort of crowded simulcast space where you have all of these screens on at the same time and all these races going, you can't hear the audio.

You cannot have an announcer telling you, "Number two is coming from behind or is doing this," or, "this horse is dying out halfway around the race." You don't know what's going on. There might be something very exciting happening somewhere, but you don't know it.

If you're following, you're playing — you're following two, three racetracks, the running line and the information with the margins and times and any kind of tidbits that you can get, sort of like in a crawl, so to speak, like we say, "Favoring number seven, being on the lead, is now dying." You need to see that.

There's nobody there to tell you, so I think that having the opportunity for a racetrack to have the means of communicating this kind of information in real time to who is watching the race is a plus. Not to mention international simulcasting. When you're sending an American racetrack signal somewhere overseas where they don't speak English, what good is it? You need to know where the horses are. The Trakus or our kind of technology is what is gonna give people a real feel of where the race is going. That's all.

Mr. Dick Powell: Yeah, definitely. Well, I think we could go on for a lot longer, but we have a very important luncheon next door. It's gonna start in about ten minutes. I wanna thank the panel: Marc Attenberg

[Laughter]

Pat Cummings, David Siegel, Fernando Vincenzini.

[Applause]

You did a great job. Thank you. We'll see you over at lunch.

[Applause]