

File name: Panel Session – What is Big Data _ Data Analytics and how does it impacts everyday life_.mp4

Moderator questions in Bold, Respondents in Regular text.

KEY: **Unable to decipher** = (inaudible + timecode), **Phonetic spelling** (ph) + timecode), **Missed word** = (mw + timecode), **Talking over each other** = (talking over each other + timecode).

F: Let's focus, shall we, through the next panel discussion-, discussion, I can't nearly speak, on Big Data in the everyday. The panel moderator is Austin Tanney. Now, Austin is current head of digital and data strategy at the Strategic Investment Board. Austin has spent the last twenty years working in the commercial sector and a range of companies from start-ups to multi-national corporations with a focus on life science, healthcare, and technology. Prior to his current role in SIB, Austin was head of artificial intelligence at Keynos (ph 00.36), head of life science and healthcare for Analytics Engines, and held a variety of roles in the Almac Group, including managing a data science team focussed on personalised medicine. Austin organised and facilitated the Northern Ireland Artificial Intelligence Collaborative Network. He's the co-founder and organiser of the Artificial Intelligence NI Community, and recently chaired a panel at Expo 2020 in Dubai, no less. Quite a resume, I'm sure you'll agree. Austin, today, is going to discuss with some leading businesses how they are using data to help you save money, improve health outcomes, contribute to the energy grid, and enjoy competition, no mean task. So, if Austin would like to come to the stage, and I can introduce for you his panel as they make their way to the stage, too. They are Paul McKernan, Managing Director of STATSports, Ivy McFarlane, Director of Business Development, AquaQ Analytics, and Kathryn Harkin, Senior Manager AICOE at Allstate. So, Austin, I'm going to hand it all over to you and your very capable hands.

Moderator: Thank you very-, thank you very much. It's good to be here today. It's very strange to see a room full of actual humans. This is the most respectably-dressed I have been for over two years, and I note that I'm still one of the underdressed in the room, but, you know, look, I made a little bit of an effort. I have a shirt on. It's, it's very unusual for me. We're here today to talk about Big Data, and I'm going to take advantage of the fact that I have humans in the room. When we do these things online, I can't do this. Can I have a show of hands for anyone in the room who actually works in the field of AI? None. That means we can talk about anything that we want. Ssh. Can I have a show of hands from anyone who works for a company that does anything with AI, or indeed with Big Data? Okay, a few more hands coming up. Can I have a show of hands from anyone who feels comfortable with the idea that they know what Big Data and AI are? A few more hands, but not that many. I just want to start out there for a few seconds of kind of highlighting that I, I don't really like the term 'Big Data' anymore. At the end of the day, data is important, and we all, every single one of us that has a device of any kind, is generating data every second of the day. We talk about Big Data because there is so much of it that it is almost overwhelming, and it takes companies and organisations to try and figure out how to make sense of it. Ultimately, we have a lot of data in every organisation, whether that's public sector or private sector, and indeed, even in our personal lives. The amount of data I have on this thing is unreal.

In reality, as, as was said by Karen in the introduction, I used to work in the space of personalised medicine, and the groundbreaking moment when we released first-ever human genome was just incredible, and it was this huge effort that cost, what was it, something like a billion dollars, and was done all over the world, but the size of the file for that genome was less than an episode of The Joe Rogan Podcast on this device. So, we have got to a point where data is massive. It's, it's part of our everyday lives. If you use Netflix, if you have any of these devices, if you wear any of these smart watches. We are generating data, we are consuming data, and we are working with companies that are using this data to tailor what we consume, to tailor what we buy. Amazon will recommend what to buy, Netflix will recommend what you watch, Spotify will recommend what you listen to, and all of that is based on data analytics, machine learning, and artificial intelligence. So, I'm really happy to have an excellent panel here today where we're going to have a little bit of a conversation about that. But what I'll do first of all is ask each panel member to do a quick introduction, and I'll just run along the line and start with you, Paul.

M: Hi. Thanks for that, Austin. I'm Paul McKernan, I am the Managing Director of STATSports. We are a sports analytics company based in Newry. What we do is provide GPS monitoring devices to elite sports teams around the world, and then more recently, provide that to the, the amateur athlete, as well. In terms of what we do and who our clients are, clients of ours would be the likes of Manchester United, Liverpool, the All Blacks, the New York Yankees, New York Jets, Miami Dolphins, etc. So, we work with probably over 1,000 of those teams now at present, and then we, more recently, have come into the area of releasing a device for the amateur, trying to give them the same experience as the, the elite-level athletes get. To touch on the data analytics side of things, it is, we're capturing lots and lots of data, but as Austin made reference to in terms of your wearable watch, we're very, very different. We're the wearable that you use just for performance. You just put it on to play sport, and then you take it off, and you analyse that data, and therefore the quality of that data needs to be at a completely different level. Like, the context of wearables and what we do is, needs to be explained within that.

Moderator: Excellent. Kathryn?

F: Hello, everyone. My name's Kathryn Harkin, I'm the Senior Manager of the AI Centre of Excellence in Allstate Northern Ireland. Most of you'll have heard of Allstate. Allstate is one of the largest protection personal liability insurers in the US. We're the largest IT employer in Northern Ireland, we have 2,500 people employed. We're split over three sites based here in-, on the (mw 05.53) in a, a building that was opened just two years ago, and then we have a-, an office in the North-West, in Derry, and also an office in the Strabane area as well. So, we are a protection company. We do auto, boat, motorcycle insurance, but we also protect identify. So, as, as things are changing and more of our data is out there online, you want to make sure that you're protected. We protect personal equipment, so, there's a lot of new markets that we're spanning into, and we also have, you know, business, now, that's outside of the US and, and the European market.

Moderator: Thanks, Kathryn. Ivy?

F: Hi, there. My name's Ivy McFarlane. I'm the Director of Sales for a local company, AquaQ Analytics. So, we're a local technology consultancy. We specialise in real-time data, so, our global client base are predominantly financial services, but we also look and work very much with local power and energy companies, and health tech companies. Essentially, we do operate on the international platform, very much, and our consultants are very much very high-calibre, all specialised in real-time data, high volume data, and we compete very much against the global consultancies that we all know of, which have thousands of employees everywhere, whereas obviously our client base is very much seeing the value proposition that Northern Ireland brings, and the 240 employees that we have, and like many of the companies here today, I think, you know, we're of-, we're at a pivotal point, and given global circumstances and, you know, post-pandemic, that our clients all want us to scale, and we all have an opportunity to scale very quickly now, as a lot of our clients want more of the expertise that they're finding in Northern Ireland.

Moderator: Excellent, then. Let's be honest, scaling is a good problem to have. So, the topic of this panel is Big Data in the everyday. So, what I really would like to ask, and again, recognising the fact that we're not talking to a room of AI engineers, what-, so, what is the impact on everyday life in the work that you do using Big Data, machine learning, and artificial intelligence? Maybe start with you, Kathryn.

F: Yes. So, I, I think-, I mean, as Austin set the scene very nicely there when he started off the conversation. Big Data is just coming at us at-, from ever increasing sources. We create so much data ourselves, you know. There's an awful lot of data that's, that's obviously stored, you know. Do we make the best use of that data? That's where AI and machine learning come in, where we're able to look at the data, structured and unstructured. So, structured, if it's in nice tabular format, all the fields are known. Unstructured, maybe where, you know, where someone's calling into a call centre, you're trying to understand what that-, what that person is talking about, you need to-, you need to convert that voice into text data, and then, you know, can you make the most out of all, all that text data that you have? So, you use techniques such as natural language processing, there's techniques such as computer vision, where the computer is actually able to determine what an object is, in, in relation to its surroundings. All of these different techniques, when brought together, can actually span the-, in our business, the whole value chain of insurance, but what we do across that value chain is very much applicable outside of insure tech. So, for example, a customer journey. When they ring in, you know, or, or someone's looking for something, a service or a product, our competitors now are not tech companies. It's the likes of Amazon and Uber and those companies that do customer experience really well. You, you-, they almost know what you want before you want it your-, yourself. So, they're predicting what your needs are. They're also living up to those expectations where you-, that, you know, immediacy now, where everybody wants everything and they want it now. So, you know, that speed of service.

The, you know, being able to cut out the noise and, and actually lead them on a journey, being able to

personalise that journey and predict what their needs are is extremely important in every business, across every business. So, to understand who your customers are, what their profile is, what their needs are, you know, is something that, that makes and improves your products and ultimately improves that customer experience. Knowing what your customers are saying about you, so, it-, previously, we would have sent out surveys. People generally only send-, fill in surveys when they're really happy or they're really not happy at all. Now, you can actually collect that data in real-time, so, as someone is, again, calling in, what are they talking about? What are those topics? What are they saying about you? Is it good, is it bad? What are those things that are trending underneath the surface that are maybe bubbling up that haven't become big issues yet? Those are the types of things that you want to catch early, and actually provide interventions for, so that you can improve that experience, or you can maybe coach one of your team to improve that better, to, to get a sale or to improve a sale. So, it has an impact for your business, and the customer experience, and your brand, and I think what we do in Allstate is applicable across many sectors.

Moderator: Yes, I think it's an excellent point, and, you know, what kind of fascinates me about AI is almost the fact that it just runs in the background, now, you know? Again, it's-, there's a lot of people, there's a lot of scaremongering about AI, but in reality, what we see is a lot of organisations just trying to improve their customer's experience. I mean, obviously, there's a bottom line impact in that, you want to make money, but in many cases, it is, it's about, 'How do we use data, and how do we actually improve people's lives? How do I make someone making a claim for car insurance easier? How do I make it better, make it more simple?' So, I think it's really important that we do that kind of thing. Paul, what about yourself?

M: Yes. Yeah, I suppose from a stats board point of view, every day of life for us is very much the elite sporting world, and to talk through maybe what we would do and how we provide that, there is nuance to it which is maybe slightly different than what Kathryn is talking about, but again, is very much with the customer in mind and trying to make sure that you're, you're able to deliver for your customer. Our practitioner, as we would call him, would be a sports scientist, but they have to provide a report, then, for a doctor, a physio, an assistant coach, a tactics coach, and then obviously to the head coach, as well. So, you're looking at a number of different audience members that you're then tailoring reports for. They contextualise it for people who are normally talking about Big Data. I agree with Austin, I, I hate the term. It's trying to get data that's going to allow you to make decisions, and from our point of view, there's a big timely factor in that because a player comes out of training, once they're finished training, by the time they get showered, changed, and go up to have their lunch, we need to have a real clarity in what they're doing for the afternoon because that's going to be tailored very, very differently based on that player profile and what they've done over this past six months, and what they have done today, and what we're hoping that they're going to do tomorrow. We work off match day minus three, minus two, minus one, and then match day plus one. We monitor the player load over that time period. To contextualise again on that, it is-, on a sales spreadsheet, we collect 1,000 lines on a sales spreadsheet per second on every single player, and that probably gives an understanding of the level of detail, and the sports centre isn't-, and our software then is expected to analyse that, get that out to the coaches, physio, doctor, etc, within an hour. So, it's to aid primarily them to make decisions on what's going to happen with that player in the afternoon, their nutrition, what their training load's going to be the next day, and if they need to go and see a physio or anything like that.

Moderator: It's really interesting. I completely missed the sports stream. I am one of those men that has just no interest in sports, but actually I find sports analytics fascinating, because of the volume of data that you're dealing, and I, you know, I used to do triathlons and marathons and I coached a few people, and, you know, the data points you're working off is, you know, 'What distance did you do yesterday? How did you feel? Okay, this is what you should do tomorrow.' You know, the level of granularity you can get from that, you mentioned already, I think one of the things I think fascinating about this is almost that cascade effect. So, you're working with Manchester United and the New York Jets, but you're now also working with consumers. So, what benefit are consumers now getting from having that cascade of what you've learned from these elite athletes?

M: Yes, and that's very much it in terms of, we're trying to give that experience down. So, again, talking about Big Data, we have to make sure we know our audience. We have 280 plus metrics at the elite level, where we have sixteen metrics at the, sort of, more consumer-operated level, but the, the best example of that is to look at step balance. So, a step balance is how much pressure input into my left foot versus my right foot? Because the GPS is worn between the shoulder-blades, you can look at that, that level. Normal people it's 50/50, 48/52, but each individual player or individual athlete will have a, a profile and a norm that they'll look at. If you're overcompensating for a soft tissue injury, that will then move drastically out, and you'll be able to see it. That's the sort of, compared to your triathlete who's looking at a garment (ph 15.15) and seeing the derivations of time and distance. This is very, very, very different, because you're looking at player load, you're looking at how your body's reacted over a period of time, and then how that might have changed in the session that you've just done. Again, it's to aid decision-making, to say, 'All my stat panels went from 50/50 to 55/45, I need to take a look at something here, you guys.'

Moderator: That's really interesting. Okay, and so, Ivy, from the AquaQ perspective. I mean, I know AquaQ do work in a lot of different sectors-,

F: We do.

Moderator: But, tell us a little bit about how it impacts everyday life.

F: Sure. Well, I think, certainly, a good example will be to talk about one of the, the projects we work with, with a local power and energy company. Essentially, we are their technology providers. So, they have the great idea, they know where they want to go with this idea, and essentially they came to us in terms of actually building and developing and implementing that idea, making it come to fruition. So, from a power and energy perspective, in bringing, you know, in bringing advantage and benefits to the local consumer, at the bottom line, we're now, essentially, bringing cheaper electricity to residential consumers of that electricity. So, here in Northern Ireland through that company, you can actually get cheaper electricity, because they're taking it from batteries where needed, as opposed to taking it from some of the larger distributors. On a-, on a higher level, we're also essentially-, I like to think that we're contributing positively to climate change, because obviously, we, we also manage the intermittency of

this electricity, and the generation of it. Again, you know, power generation contributes, I think, 20% to global greenhouse gases. So, actually, managing that efficiency and effectiveness of, of, of that power generation is very important, until we get alternative sustainable, you know, options on that. So, that's, that's one big, you know, on-the-ground benefit that we're bringing, not only to local, but-, consumers, but also, obviously, to other consumers who-, that when they-, when they take this internationally.

Moderator: Yeah. I mean, that's incredibly topical, you know, with our 10X economic strategy, we've got the green growth strategy, we've got-, and, and, to-, and fundamentally, you know, you look at the news every day and we're facing energy problem with energy increases. This is hugely topical and genuinely, again, it's using data to make a positive impact in people's lives, which I think is, for me, the most important thing about all of this is that it should be AI for good, tech for good, data for good. Now, what we're here as part of this, it's an NI Showcase, right? Our, our sponsor brought here by Invest Northern Ireland part (ph 17.51) of the economy. So, this is Northern Ireland-focussed. So, I guess an interesting question, also makes for good, good variety here, so, I guess my, my key question here is, why are you based in Northern Ireland, and what are-, what are the positives of your business being here in Northern Ireland? Paul, start with you.

M: Yeah. Well, as I said before, we're based in Newry, so, it's kind of a, a great position, half our team Belfast and Dublin, and in some ways, we get the best of both worlds. Two founders are from Dundalk, so, moving across the border, Invest NI helped us a lot with that, and Helen (mw 18.22) represent has been great in, in keeping us going with everything with Invest NI, but the, the big thing that we have is that we actually do have a really, really good talent pool here. At the minute, it's getting strained within soft (ph 18.33) we're in a few different areas, but we have a great talent pool, some really, really good staff, some really, really good staff, and we're able to get them from, from both sides, which, which, which is hugely helpful to us. The other thing about it is, starting off as a business, it's kind of neutral. Northern Ireland is kind of a neutral position in sport. We weren't north of England, we weren't in the south of England, we couldn't offend anybody, and, you know, it was a good place to be, you know. We-, I think for us, a big part of it is the staff that we've been able to get, and how they've-, how they've helped us grow. We went out to different regions, we've spoke to different people, an office in Chicago, we've people working in Qatar (ph 19.07) Australia, etc. Our head office is, is here. We do all of our software here, we do all of our hardware development here, and even our manufacture, now, is done in Elite Electronics in (mw 19.19). So, very much indigenous and, sort of, very happy with it, very proud of it.

Moderator: I mean, STATSport's a great example of a home-grown business doing incredibly well. As you say, you know, expanding across some of the biggest sports teams in the world. Kathryn, you're a good representation here of a, a huge FDI success story. So, tell us a little bit about the Allstate perspective on, well, why did Allstate come here in the first place, and why are you still here so many years later?

F: Well, Allstate was set up twenty plus years ago. We had our twenty-year anniversaries both in Belfast and Derry over the last year, and initially it was set up to provide services to the US. You know, it was cheaper labour than what they could get in the US. So, you know, we're very much an order-taker at that

stage. However, you know, that story has changed over time, and it's due to the talent that we have, the talent pipeline. We were bringing in some very high-quality people, and still do that. So, now, we are, are leaders and drivers of the work, you know. We have over 100 plus people who work in cyber, which, you know, we know that we're, we're strong in Northern Ireland, and, and that area, and we're, we're growing, in, in a lot of the sectors. So, the AI story, you know, four years ago, I went about setting up AI. We didn't have those skills, and based in Northern Ireland, we had a data science team but we didn't have AI machine learning engineers, and we were able to, to start off bringing in a couple of good people who were able to help, sort of, coach and train other folks, and also continue to look for that good talent. It's still a really difficult skill set to try and, and get, but we've worked with-, closely with the universities, Ulster, Queens, and Letterkenny as well, because we're on the border, obviously, in the North West, and we, we, you know, have very tight relationships with all of those academic institutes. We look at their curricula, you know, we review those, we, we advise on those, we try to bring in as many placement students, we get the graduates early, we bring them in at internships, like, at, at the end of their first year, and they continue to work with us on a part-time basis. So, we keep those relationships because, you know, it is-, there's a lot of choices out there, you know.

While they're students, stay here, or choose to go away. If they choose to go away, we want to attract them back. If they stay here to study, we want to keep them, and it's the same with experienced folks, you know, trying to keep them once you have, have them. So, building a good culture where they want to stay and work for us, and making sure that they have interesting problems to solve, and we have no shortage of problems in terms of the amount of data that we have within Allstate, and, you know, the great opportunities that it is to work on really interesting stuff. So, it's very much about the people. Geography does play a part of us as well, in that we're well-positioned between working with Asia, Allstate has offices in Bangalore and Panay, so, we're able to work with them in the morning-time, and then hook in with the US, obviously, in the afternoon. So, we are the glue, you know? We're that overlap, and, you know, without us there, it would be very difficult, you know, for, for, for, for that business to happen across US and Asia. So, geography's a big part of it. I think it's, you know, it's, it's about the creativity. We have built our reputation, we are leaders and drivers of the work. We have, you know, we, we, as I say, now, lead some of the, the, the, the, you know, the larger teams there as well. So, you know, it's, it's very much, you know, we're, we're part and parcel of the business, and, you know, have, have worked our way up there.

Moderator: Yeah, and I think the Allstate story's a great example of that. I mean, you mentioned that we have great people, and indeed, so, so many of us on this-, the stage have, have swapped staff between the companies, or stolen each other's staff, or whatever way, way it works, but on the flipside, I think Allstate's a great example, where this is not a foreign company coming in, foreign direct investment coming in because we're cheap labour. You know, you have become a globally-recognised artificial intelligence centre of excellence in a massive multi-national company. It's a fantastic success story for Northern Ireland. This is not about cheap labour, true expertise. Ivy, obviously, AquaQ, another home-grown organisation. I know a little bit about the background, but again, tell us a little bit about, you know, how AquaQ came about, and why Northern Ireland?

F: Well, they're, they're easily-, is it working? Yes. Now, it is. Very easily. We-, we're here because our two-, our two co-founders were from Northern Ireland, so, like many of us here, didn't want to leave, but we, we have been successful because as, as we all said here today, the wealth of talent that's available in Northern Ireland is second to none, so, we don't need to look elsewhere right now. Also, from-, given that we are a consultancy, the affordability of that talent compared to international markets is a big key factor for our clients. Whilst we can compete on those two levels, with many international organisations, I think there's too differentiating factors very specific to Northern Ireland that I've seen, and one is, the stickiness of our employees. I mean the 'stickiness' of them to Northern Ireland. They don't want to leave, and the continuity of that-, of that employee base is very important to our clients, you know? They don't want attrition, they can't deal-, none of us want attrition, and I think we're very lucky that, actually, a lot of the talent and the people here in Northern Ireland want to stay, and that-, that's due to many factors. Also, the second point I would say, in terms of-, that I think differentiates Northern Ireland compared to other near or far countries that offer the same services is that, all our candidates are very easily able to operate at a very professional level, and at, at an international standard professional level. I have no problem in sending our developers to the US to meet our clients, to Asia, to represent AquaQ Analytics, because they actually, not only are they smart, but they're actually really professional, and I think that's just-, well, I assume it's inherent in the Northern Ireland mindset, and the makeup of our people.

I think those two, when, when I meet with FDIs that come here and I ask them, 'What are your priorities for people here?' You know, of course, affordability is actually down-, very down the list. They want the wealth of talent, they want the continuity of staff, but they also want to make sure that the people they get are able to engage with their stakeholders and their senior people that are operating on the international arena, because they are big companies. I think that's where we can stand on our own two feet. We can-, we can, sort of, stand against titans, stand with the titans, and our people are their force, and can easily do that with us.

Moderator: Absolutely. That's, that's great to hear. I, I agree. I mean, I know many of the-, your staff, and Kathryn's staff, like, I know some of your guys too, and it-, fantastic people we have here. I appreciate-, I have many more questions, but we're actually running shorter on time, so, one more question for, kind of, a quick response from everybody. When it comes to Big Data, AI, machine learning, what are you most excited about in terms of development of data and AI? Either within your own company, or just generally. Start with Kathryn.

F: Well, I think we're just at the beginning of the journey, and I think that's what excites me the most. You know, there's a lot of opportunities out there, so, you know, to survive in business now, you just don't need to do what you do now better, you actually need to do different things. So, you know, it's that constant pace of change which keeps it exciting. You know, new sources of data, new products and services that we haven't even thought about that we need to-, we need to start developing, and, you know, being involved in that innovation, and thinking strategically about where it's all heading is what excites me, and, and keeps me, you know, very much motivated in this-, in this space.

Moderator: Ivy?

F: Certainly, we're very excited about the Cloud, and the opportunities it offers for-, just not just our company, but our clients, as well. Obviously, operating in the Big Data arena, the Cloud is-, it's offering us all just the ability to deal with almost limitless amounts of data, and also, the ability to, to, to have computing power on a pay-as-you-go, you know, on a demand basis. I mean, that, that's fabulous for, not just start-ups, but also for those big titans that can afford it. So, I think, certainly for us, the topic of conversations with all our clients, whether small or large, is the Cloud. I think we are at an early stage and they're all looking at hybrid versions, but certainly it's affordable to everyone and gives us all limitless opportunities to take our data and store it on a very affordable basis, and do more with it.

Moderator: Paul?

M: Yes. I suppose, focussing purely on STATSports, and what really excites us is, you know, how we can push the boundaries of human performance at the elite level. If you you imagine ten years ago, we were having to point to the sky and say, 'This is GPS, and this is why you have to wear it,' etc. Now, it's, it's almost ubiquitous within elite sport. What we want to do then is be able to elongate careers, help, sort of, everybody with the human performance element and making sure that people are optimised whenever it comes to match day. How we can do that with AI, if we're looking at a player profile over the period of the last three months, and understand, then, what that looks like, and then being able to look at a set of drills or coaching tactics that you're going through, matching those two together and predicting what's going to actually happen in the training session for an individual athlete, and then being able to make changes before the actual session happens. That, to us, is then just moving it on a completely different level.

Moderator: Okay, folks. Thank you very much, it's been really interesting. I hope you've all enjoyed it. I think it's been fantastic to see that variety, you know, we're here to talk about Big Data in everyday life. In reality, even just with what we have on the stage here, we've heard about how data's important in whether Man United play well this weekend, what you do if you crash your car, and how you buy your electricity. You know, it really is part of our everyday lives. We've also heard from the team-, from the panels here about, you know, what a great place it is to actually run a company in Northern Ireland, and to be part of a company in Northern Ireland. Again, I think that's a really important message for-, both for domestic and for, for, for foreign direct investment from the perspective that we really do have great people, and as was said in the introduction, you know, the touring report really presented Northern Ireland as a powerhouse in, in AI. If you combine the research output of both of our universities together, you know, we're in the top ten of the UK. You know? Our academic excellence is really strong, our company excellence is really strong, and Northern Ireland really is a fantastic place to do business in-, with data and AI, and at the end of the day, there's a huge amount to be excited about, you know, in terms of what's coming next. As I say, I-, I'm always interested in just how, how-, just an intrinsic part of our lives data and AI have become, but there is so much, as you said, it's still very early in the journey. Thank you very much, folks. I hope you all enjoyed it. Karen, if you want to come and kick us off the stage?

