



# Jo Twist OBE

Interviewed by

**Elisabetta Mori**

3<sup>rd</sup> January 2019

At the offices of

**ukie**

London, EC1N 8JH

Copyright

**Archives of IT**

(Registered Charity 1164198)

*Welcome to the Archives of Information Technology. It's the sixth of November 2018 and we are in London at Ukie. I am Elisabetta Mori, interviewer with the Archives of IT.*

*Today I'll be talking to Dr. Jo Twist. She is CEO of Ukie, the trade body for UK games and interactive entertainment. She is also Deputy Chair of the British Screen Advisory Council, London Tech Ambassador, Chair of the BAFTA Games Committee .. and Ambassador of the Mayor of London Culture Leadership Board and creative industry council member. She is a visiting Professor at Ravensbourne University in London. In 2016 she was awarded an OBE for services to the creative industries and won the MCV thirteenth Women in Games Award for outstanding contribution. She is a Vice President for Games and Accessibility Charity, special effect and the government sector champion for disabilities. Previously, Jo was Channel 4 Education Commissioning Editor where she commissioned digital Emmy-winning Battlefront II, free to play browser and iOS games and social media project. Jo was Multi-Platform Commissioner for BBC Entertainment and Switch, BBC3 Multi-Platform Channel Editor and a technology reporter for BBC News.*

*Welcome Jo.*

*Well, where you were born?*

*00:01:32*

*I was born in Hong Kong in 1973. So it was a great time to be in Hong Kong. It was very much an expatriate community so way before the handover when it was still run by the UK.*

*Please, describe your parents. What were their occupations?*

*So, my mum was a primary school teacher and she taught out in Hong Kong. And my dad was a civil engineer so he worked on a lot of the big construction projects in Hong Kong, like the new airport or the tunnels. Of course, Hong Kong is constantly in under-construction so he worked on a lot of those big projects. So they were, they'd spent some time in Africa - he was English, she was Scottish - before coming*

to Hong Kong, and spent a couple of years there. My sister was seven when I was born.

00:02:22

*What about important influences of your early life?*

I think because I grew up in Hong Kong I was quite influenced by a lot of Japanese culture, a lot of international influences because Hong Kong at that time was full of international people. We had Canadians, Americans, Australians, British people, Chinese, all sorts of influences but obviously it was also during the seventies so a golden period in my book and I was obsessed from a very young age with shiny things and gadgets. You know, Hong Kong was quite a good place to get gadgets and you always had the newest technology there. But of course I was also influenced by a lot of Japanese television and Chinese opera so I loved Manga and Anime style of cartoons. We did get some British programmes, obviously, in Hong Kong, childrens' programmes and a lot of American cartoons, but I think for me anything miniature and anything cute and anything *Kawai* – which is Japanese for cute – just instantly obsessed me. I remember .. I was brought up with Hello Kitty and Sanrio products, My Melody, Hello Kitty, the Little Twin Star and all these just pencil cases, pencils and tiny things, and I've still got them all. [laughs] I display them all in my cabinet now.

00:04:00

*Which schools did you attend in Hong Kong?*

I was very lucky, we lived on the Peak and I went to a primary school called the Peak School and it is nothing but good memories for me apart from when we had to have inoculations and in the seventies they used to disinfect the needle with a Bunsen Burner. And you had to stand in line watching that and that was quite terrifying. But it was a great place to go to school and it was obviously always really nice weather until typhoon season and the biggest joy was always seeing these swarms of

dragonflies before the typhoon hit and you knew you were going to get sent home from school that day so that was great [laughs].

00:04:40

*When did you move to the UK?*

So my parents split up in about 1982, 83 and my mum originally was from Scotland so we left Hong Kong, my sister and I with my mum, and I didn't actually realise at the time that we weren't going back to Hong Kong so I left my dog and all my toys and my friends and it was a bit traumatic and my grandad was dying of cancer at the time. So we moved back to Scotland, my mum was originally from Falkirk which is in between Glasgow and Edinburgh. We lived on the West Coast, near Loch Lomond, which is quite a famous place in Scotland. It wasn't a particularly happy time for a few years, I will say that. And also, the eighties in the UK [laughs] were pretty dreary. It seems a much more innocent time now. It was the height of the Falklands War, it was the height of Maggie Thatcher. Maggie Thatcher didn't really treat Scotland that well and so it was an interesting time and I obviously had moved from all my life in Hong Kong, swimming outdoors, living on the Peak, didn't really realise what a privileged lifestyle I'd led, and to come back to Scotland we were living in a pretty damp little flat surrounded by cardboard boxes. And it wasn't a great time. [laughs]

00:06:08

*You missed Hong Kong?*

Yeah, I got put off swimming a lot because all the swimming pools in Scotland obviously are indoors. I got a verruca for the first time, I didn't even know what that was. It was just so weird for me swimming indoors, so I came down from my privileged lifestyle with a bit of a bump. [laughs]

*Which colleges and university did you attend and where?*

So I ended up staying in Scotland. I went to school from the age of ten in Scotland and various different schools, three or four different schools. And I ended up – my dad had to pay the school fees as part of the separation settlement – so I get sent to a very very expensive school in Edinburgh. And it was a boarding school and it was the making of me because I learned about social justice and equality and how to use privilege and that there are massive divisions in society around poverty and privilege. And I loved Edinburgh so much so I wanted to stay in Scotland for university and I applied to all the Scottish universities at the time and I even got a place in Dundee which, at the time - I didn't realise - was the seat of the games industry in the UK. But I ended up going to Edinburgh University because I loved Edinburgh so much, which I really really enjoyed. So that was for my undergrad. degree.

00:07:35

*So which classes did you most enjoy and which were your most successful subjects?*

Well, I originally applied and got my place to do Politics because I was pretty political at that point, having seen injustice and seen this kind of very privileged lifestyle and then not so privileged and understanding how society can be unfair to a lot of people around me, and so I was really interested in politics. I then took a year out to go to Australia which I organised myself and, at that time in 1990 you didn't have the Internet and I organised it via letters and faxes. And I actually ended up going on a twenty-three hour bus journey away from the original place that I thought I was going to in Australia, so ended up in the middle of nowhere. It wasn't the middle of nowhere, that was great, but during my time in Australia I got very disillusioned with politics so I changed to do geography. I always loved geography as a subject because I think I always felt, whenever someone asked me 'where are you from?' it's not a question I can answer, I'm not from anywhere. I identify in different ways so I was always fascinated by human geography in humans and economics so I started doing geography. In Edinburgh you do optional courses, you do three different subjects in your first two years. And one of, I think, the formative subjects for me was social anthropology and I almost decided to take that on full-time because I was just fascinated by this whole idea of ethnography and objectivity and subjectivity and how you describe things that you see and how, whenever anyone is describing history

or trying to do some kind of ethnography, it is impossible to remove yourself from the process. And so that was quite a defining subject for me. I then had a lot of really fantastic lecturers in my geography department, at the time; it was very much a kind of very very top department throughout the country, throughout the UK, and I had a couple of sort of cultural geography and feminist geography lecturers who were very very influential and that ... I think my course, my degree course was quite unusual because it really was about a mix of sociology, social anthropology, understanding, concepts of place and identity and power. How the physical environment, the built environment is formed and built in order to regulate behaviour, movement, people, sometimes regulating undesirable people in society's minds out of public space. And I think that was ... I was very fortunate to be doing that kind of geography which was a different kind of take on, I guess, human geography and the importance of identity and place. So I really was very lucky and I had a lot of ... I think at the time my university was also very good at GIS, Geographical Information Systems, and I didn't think I was clever enough to do that. And I kind of wish I had dabbled in that because [laughs] but they were quite a leading department at the time. So it was really this whole mix that I got exposed to and some key people, like Liz Bundy who was one of my lecturers who really championed the kinds of things that I was looking at. For my undergrad dissertation I decided to – this was about 1995/96 – I noticed, you know we got the Internet when we were at university, in 1992 I got the Internet, and I started accessing, I was using Gofer at the time, pre-Mosaic, and I was accessing all these academic papers that were unpublished and I was absolutely fascinated about this kind of digital virtual worlds that were being created and opening up through the Internet. And at that time the only real way to access the Internet was either in your university computer lab or in Internet cafes and in Edinburgh we had three or four that were lovely places to go. And so I did an ethnographic study about Internet cafes in Edinburgh and I compared them to nineteenth century Parisian coffee houses where they were kind of, sort of, semi public/private spaces where debate took place. And my lecturers at the time didn't believe me about the Internet, that people were making strong bonds and forming relationships and talking to each other and forming communities online. But this one lecturer, Liz, did believe me and she supported me and so she was very influential and she handed me a book by Marge Piercy called *He She and It*, or *Body of Glass* it was published in this country under. It's a feminist

sci-fi near-future dystopian novel and it was at that point I decided .. she said ‘you need to take what you’re studying further’ so I did.

00:12:45

*Nice. What was your first computer?*

So, my first computer really ... in Hong Kong I nagged my parents to get something but actually it was sort of more when we moved back to the UK, I really wanted a BBC Micro, I then wanted a Spectrum but my mum was a single mum and my dad kept promising me that he would get me a computer, he would get me a computer, he would get me a computer and he never did. Every Christmas, every birthday and this was when my parents had split up. There was no way my mum could have afforded that. So we had BBC Micros at school, my primary school, and my friend had a Spectrum and I used to go round to her house and we would play games and we would wait for about an hour for them to load up [laughs]. But that was my real first experience and I think I often wonder what would have happened to me if I had got that BBC Micro and had actually started programming and giving it instructions because at school you didn’t really get to do anything creative with it. But my first, I suppose, you know it is a computer, it was my Optum. So my opticians in 1978, when I was in Hong Kong, told my parents to get me this thing, this system, and it had cabled controllers, a little dial – I’ve still got that in my living room as well – because there was this new thing called Pong out, and he told my parents I had a really bad squint so he directed my parents to make me play it, covering up my good eye and playing it with my bad eye, which meant that I didn’t have to wear a plaster over my glasses but I still had to wear glasses. But that fixed my squint. So that was my first computer, I guess, if you like. But I never got my computer from my dad until I was at university.

00:14:41

*So this was the first video game that you remember?*

Yes, Pong was my first video game, in 1978, and it was prescribed to me [laughs].

*Did you go to a girls-only secondary school?*

I got sent to, I went to primary school locally for a couple of years which was good fun although I was teased mercilessly for my English accent even though I wasn't English. I said 'I'm not English' and then they couldn't understand why I wasn't Chinese so that was all very confusing. But I did enjoy it and I made good friends and then I got sent to a girls' school in Glasgow so I would get on the train, age eleven, for forty-five minutes and walk up to the school and it was horrible. I think it was a really bad age for some girls and I was only there for a year. And we just got bullied; there was just this group of girls that were .. just would always target you. We were doing trampolining as part of our PE which is the worst thing to do when you're an eleven-year old girl just probably forming your womanly body shape. So they would watch girls play on the trampoline and then wrestle them to the ground and rip their bras off [laughs]. It was horrible! Really bitchy and horrible.

00:16:06

*So, going back to university, you have your PhD from the University of Newcastle.  
What was it about?*

Well, so in my undergrad, so after my lecturer had handed me this book and she encouraged me, I said 'look I'm not a grade A student, how can I do a PhD?', you know, I'm not clever, I'm not that kind of person. She said 'don't be stupid, you're doing something original and you've got this curiosity about this thing that no one really is writing about'. And I actually I did an MSc by research first to get more points to apply for funding, and I got offered a fully funded place at Edinburgh and also at Lampeter in Wales to – what I wanted to study was this whole world of online social virtual worlds and communities and how they were impacting how we thought about communities and physical space in real life, if you like. And there were very few publications - you had Sherry Turkle, Howard Reingold, Bill Mitchell, those were the seminal books in the mid-nineties that were talking about the social side of the Internet. But in this country there was only really one department at the University of Newcastle in the Centre for Urban Technology so it was Steve Graham and his



colleagues who were looking at telecommunications in the city and they were looking at, they were very influenced by Manuel Castells, sociologist, about networks of power and how new technologies information communication networks were changing the flow of power and changing and reshaping geography, reshaping power dynamics. So I applied to do my doctorate there and it was something called a case award which was also supported by BT, British Telecom, in the R and D labs. They were interested in local community networks so how the Internet and access to the Internet would help revitalise and strengthen local communities. So I won that place and I studied, I sort of, as you do with most PhDs, you start out with a thesis and you then spend two years going, aagh, and then well, the first year you should be screaming and then the second year you kind of shape it to what you actually think the thesis is. And you do your fieldwork and I had to balance what British Telecom wanted to get out of my work with what I wanted to get out of it. And I think I successfully did that so what I looked at was on and offline communities amongst UK youth. It was a terrible, longwinded, awful academic title and it was looking at how, at the time, everyone's narrative about the Internet and the information age was that it was going to be the great saviour, especially in the UK, for towns and communities whose industries had been decimated, so old coal mining towns, places like Rotherham, places of social deprivation, and how access to the Internet was going to help people into new jobs, new skills. So it was really about the Internet and access to what was happening in terms of online communities and how that was going to help people become more included and more skilled. Except a lot of the government projects and a lot of the local community projects, I think were doing it wrong [laughs]. So I was quite critical of that in my thesis.

00:19:50

*Have you got any particular memory of the time that you want to share with us?*

I think it's interesting doing a PhD, in particular, the biggest reason BT actually did some research about why people drop out and the biggest reason people drop out is feeling of isolation. And for me, I was lucky because my whole subject area was about online communities, virtual communities, so I was – and I did an online ethnography but I also did ethnography of some kids who were part of a computer

club in Newham in East London so it was an on and offline ethnography – but luckily it meant that part of my research was being part of online communities. So actually, you know, I met some really amazing friends, I just chatted to people all the time on the Internet while I was in my office, while I was working, while I was writing, while I was thinking. And that, I think, really helped me combat that isolation that you feel, particularly doing a PhD, when you think ‘what I’m doing is rubbish, no one is going to read this, what am I actually saying?’ There’s a lot of self-doubt in academic study sometimes and so I think that was one of my biggest memories. I mean, I was fortunate to have, you know, if you’re at university and this was now about 1997, we had a really really good Internet connection so I was on Napster, I was watching the first Big Brother live on Real Player. You know, on this other screen I was, I had a Webcam which updated every fifteen seconds [laughs] I remember doing some things that probably are naughty now, in terms of watching films and stuff. But I think I was really just at the right time where this whole world of joy was presented to me through the Internet and just connecting with people and talking ‘til late into the evening with people that you never ever met offline but you formed strong bonds with online. And part of my work was around how we express ourselves and how identity works and subjectivity works in different communities so different presentation of yourself in online worlds as well as offline worlds is really important, and at the time it was full of bulletin boards and chat rooms and so one and IRC chat and games. So that kind of different sides of yourselves, that you are allowed to explore as a human, that the Internet gave you, these communities, to explore through was really fascinating. And I remember, I was part of a really strong online chat community for about a year and a half and I think, whenever anyone would say ‘ASL’ I’d go ‘old enough, maybe, anywhere’ [laughs]. I was always very careful about never revealing what gender I was, who I was, where I was, my online handle I chose because I was sitting there thinking, ‘right I need something gender neutral’ because that was part of my study and I just sat there, ‘Joe, Schmo, Lo, Toe – Toe! I’ll be Toe’. And when I got my doctorate I became Doctoe and that’s always my online identity. But I just, it was such a great time to be doing what I was doing and I think a lot of life is always about timing anyway. But it was a great time because the Internet was so fresh.

*So, what led you to work for the BBC? What persuaded you to come here?*

Yeah, I mean I finished the PhD, I still had to do a lot of, kind of tidying up – it takes about a year after you actually finish it, if you then start working. I did do some lecturing when I was at university which I really enjoyed and I did some first year lectures in geography and looking at dystopian visions of the future and showed the Metropolis and Bladerunner and so on. I really enjoyed lecturing but what I realised was the academic process was very mired in this slowness. I was also an editorial assistant for one of my previous lecturers' journal that she edited and I just thought, 'you know, I'm in this ivory tower yet I'm studying this really fast-moving medium that I want my work or my voice to be outside of academia'. So I decided, I'd made a decision that I didn't want to be in academia. It was too slow moving for me, the whole publishing process just didn't work for me. And there was a really big emphasis on getting money into universities rather than teaching and I just didn't feel at ease with that. But then, when I finished in 2000 it was sort of dotcom boom time and I literally, I think you come out so relieved that you've done the PhD but you're still not confident about what you've done so I had no idea what to do with it. No idea. And I remember just looking in the days when - this was 2000 and you could look through a newspaper and apply for a job – I saw a job advertised for BBC Newsround which is the children's news programme on BBC that still exists. They were looking to build what they called their virtual community and they were looking for an associate producer and a researcher and I applied for associate producer job knowing that I wouldn't get it and I got invited to an interview down in London and they really liked what I'd been studying. And so they gave me a researcher job, eighteen and a half grand, not a bad salary for a starting salary in 2000. And I didn't know what the hell I was doing. I had to learn HTML, I had to publish, I had to do graphics, I had to run stories. So I was part of three, we called them e-angels, in typical 2000 language, so we were the first integrated news team at the BBC. But there were three of us doing the online news coverage that supplemented and complemented the eight-minute TV programme. So it was very exciting to be in the newsroom with a daily show to make. But then what we did was – the three of us - we did shift work and we did stories that the programme couldn't hope to have the bandwidth to cover – we would report on stories and news for that audience which was kind of ten to twelve year olds from 6.30 in the morning 'til 10 pm at night, three

hundred and sixty-five days of the year. And [laughs] it was brilliant and I learned a hell of a lot. It was also at the height of kind of Harry Potter mania so we knew that in order to – what's going to get kids to read news, right, you know, it's a difficult sell and it's what the TV programme did really well, but what we realised was that you always had to have something that would hook the kids in, to then read the news, so we would always have an interactive element, so it would either be a vote or we had a whole bunch of message boards so we had to moderate them, or a picture gallery or a game. So I devised a couple of games while I was there, one of them called Poacher Patrol, and that was made in-house, and they would be newsy type topical games or news type topical interactive features. And then we would also voice record the stories after we would write them and you had to, I think all journalists should work at Newsround to get that training of how to tell a story in very simple terms and also how to help children understand really complex matters. I was in the newsroom, we were working when 9/11 happened and trying to explain that while you're watching it live to a young audience who's going to be terrified is a real challenge. So I think everyone should go and work at Newsround if they want to be a journalist. But it was a really interesting experience and I was there for three years and I got to produce interactive programmes in our first interactive studio and we would do live webchats, we would do all sorts of really ground-breaking stuff, you know, that we didn't think it was ground-breaking at the time so it was fantastic, I loved it.

00:28:41

*Your commissioning was successful, and your projects such as Battlefront II, would you like to tell us more about that?*

Yeah, after, I mean there's the whole gap in between being a journalist at Newsround, I then became a tech journalist at BBC News Online for three years. There again, it was the best time because it was just when Google was kind of on the up, Facebook hadn't even been invented yet, YouTube was invented in 2005 so I was there. I was writing a lot about citizen journalism because we had then the London bombings and .. there was all sorts of, really it was the height of Web 2.0. So I did a whole bunch of stuff there and interviewed some great people and then I stepped out of journalism, I knew that I didn't, I never trained to be a journalist and I wanted again to do

something a little bit more, so I stepped out, worked for a think tank, headed up digital society research. They were way behind where I wanted to be so I only stayed there a year. I did some early commissioning back at the BBC in terms of entertainment but was never allowed to commission games and I think the BBC's attitude towards games at the time was quite damaged by certain things that had happened with government and anti-competitive kind of rules. And I escaped to Channel 4 because I didn't have digital or multiplatform in my job title because, as far as I was concerned, this is all about the Internet and broadcast, so it was all content, it was all experiences, it was all ways in which we tell stories or want to tell stories or want to enable people to tell stories. So I went to Channel 4 to be able to tell stories in different ways, whether that be through comic books, whether that be through social media projects, whether that be through YouTube or through games. So the strategy at the time at Channel 4, we had the public service remit at Channel 4, which was education so we didn't have to prove any return on financial investment, just an impact on young peoples' lives. So we were targeting fourteen to nineteen year olds in their leisure time so it was non-curriculum learning so it's things like citizenship, privacy, surveillance, issues that they confront in their lives, body image, nowadays it would be fake news, and we understood that the best way to reach that audience was through games because games are learning, they are empathy engines, they're places in which you can practise life, you can in a safe way, they're really good at building resilience, you can kind of gain a set of critical-skills thinking because you're able to look back at decisions you made and go back and redo them and see the consequences of the decisions that you make in a game. So we used games as a format and we would put out briefs that would be, for example, global citizenship or body image, and we would invite companies to pitch their ideas. We never really targeted triple A studios or any of the big games studios because why would we? They're busy making their global blockbuster hits so we particularly worked with, I think, younger development studios and start-ups that were really interested in doing something different. And Sweatshop was one of the games that I was, sort of saw through from start to finish, that I was really proud to work on.

00:32:32

*Will you tell us about what the work on Sweatshop is?*

Sweatshop was, is, it's still online, it's free to play. It was browser based at that time because at that time it was still where kids were – and particularly that demographic - were still on Blackberry and then they were just moving to android. So smartphones were, for them, it was all about Blackberry. So really, 'cos this was 2010, 2011, it was a browser based game and then we ported it to mobile but it was working with a Brighton-based company called Little Loud who has now since shut their doors, and they wanted to do a top down, kind of tower defence type game. So you're essentially running a sweatshop in an undisclosed location and you have pressure to fulfil the orders that you're getting from your partners in and around the world. So for example we would parody famous people at the time and you would get a news story that 'uhuh' has been seen with this amazing handbag and now Crimark would like to put in an order to, you know, make these handbags and trainers and so on. And so the decisions that you made in the game, so your workers would come up to you - so you had to use children - and your workers would come up to you and say 'can I get some time off for education, can I go to school or can we have a fan, or can we get some more toilet breaks' or whatever it might be. You could choose either to treat your staff well or not and that would determine the outcome of the story ultimately. And it was really not to preach to kids, we worked with a couple of charities that were trying to raise awareness about why your T-shirt in a particular shop on the High Street cost one pound. It's not because it's a really good deal, it's because there's a whole global supply chain here and this is the impact it has on people's lives. So we weren't trying to tell people that sweatshops are good or bad, what we were trying to explain to young people was that 'it's really complex' and we shouldn't put any sort of value judgments on the way that people choose to do things but ... it's very complicated in terms of how global economics works. And it really was about helping them to understand the complexities and helping them to understand that, actually, there are ethical ways to do this kind of thing.

00:35:15

*And what happened to the game?*

Yes, so I left Channel 4 and the plan was always that Little Loud would port it to I-Pad and I-Phones and android. I-Phone first and they would then monetise some of the levels and that was always the plan. And Apple banned it because their developer guidelines say that they treat games differently to how they treat other media. So if you want to make a political point write a song or make a film. And that attitude hasn't really changed much and I believe truly that games are one of the most powerful communications media that we have and they're really powerful in terms of transmitting ideas, in terms of helping people to understand things, particularly complex issues. So, and they are definitely political, and we've got so many examples of those. We've got lots of other examples of games that Apple have banned. And I think it's an important point for us as society to look at games in a way that's more sophisticated, you know, this is a legitimate form of story telling and a very very powerful medium. So they just have a different attitude and it's their platform so that's their right.

00:36:41

*You were also involved with the creation of Nom Nation, which is a game about food and the effect it has on your body, to complete your journey and its advance on your eating habits. Can you give us more details about the choice of such a specific thing.*

I think it was around body image and it was around healthy living, balanced lifestyle and all those sort of good citizenship and personal kind of politics, I guess. The key thing that we tried to do when we were commissioning games and when companies were making the games was that we didn't make educational games. All games are educational. If I got pitched an education game we wouldn't ever commission it. The education is baked into the mechanics so it was all about the gameplay and the mechanics and what you're doing in the game that makes sense that is baking in that learning. So it was a real challenge, that one, and Playerthree was the company we worked with and they were fantastic. It was a real challenge because we also wanted to be accurate so if you're combining different foods what happens to the kind of chemical mix [laughs] so it was really, but in all these games that we made we always worked with experts so that we could be guided on, well, actually this is giving a true portrayal of actually what happens when you eat certain things or what happens when

you eat certain combos. And it's much like sort of power-ups or power-downs in games so those combinations and what you choose – just like choosing your weapon – should make sense and should be accurate. In the same way – this wasn't my commission, this was Alice Taylor's commission, but it won a BAFTA – Privates which was a game of war in the vagina and it was a sex aid game, a PC game which was amazingly successful, and that was another kind of great example where at least we had a whole generation of teenage boys that knew how to spell gonorrhoea. So you were leading a battalion in the body and you have to choose your weapon according to what kind of virus or bacteria you encountered. And that is proper science, that is proper learning, proper education. [laughs] We always tried, there was always a sense of humour with the games that we commissioned and the people that we worked with.

00:39:18

*2016 was quite a successful year for you, you received an OBE and an award from MCV for outstanding contribution at the thirteenth Women in Games Awards. What are your memories of that year.*

Yeah, a bit overwhelming really. When I found out about the outstanding contribution award from MCV you always look around you and go 'but everyone else is outstanding as well' or everyone else is contributing far more. You guys are actually making games, I'm not even making games anymore, so it's really humbling and when I found out about that and collected, well I found out on the night about that award, I didn't know I was getting that, and I was at the awards obviously, but I didn't know I was getting the outstanding contribution and these videos started playing of my peers saying nice things about me and I just started crying and then I had to make some fumbly speech. But actually at that time I already knew, I'd been informed that I had been awarded an OBE but it wasn't public and I just felt just really quite overwhelmed. And you think, well where do you go from there and I think for me it just makes me want to do an even better job for the industry and to prove to people what a fantastic industry this is and to support as many people as possible on their own journeys.

00:41:03



*So can you explain what is Ukie and what is your role.*

In 2011 I was phoned up, actually someone on Facebook asked me, 'hey, do you know anyone who would be good for this job' and I was like, 'Oh I'll have a think', and it was CEO of Ukie. I knew about Ukie. We'd talked to Ukie when we were at Channel 4 and I'd written about trade bodies and I always did the GFK chart stories when I was a tech journalist and so I knew about trade bodies. I then realised, when people say to you 'do you know anyone who'd be good for this' what they're really saying is 'you'd be good for it' which I didn't know at the time, so I was actually then called up about the job from the headhunters and I was quite sort of, I don't know, taken aback, a little bit sort of relaxed about it as well because I thought, well, I've never been a CEO so fat chance of me being a CEO. And I also thought, right, Ukie is a trade association and I imagined, I always had this concept of trade associations being where people go to die [laughs] and quite sort of stuffy and maybe a lot of suits and a little bit sort of strange. But Ukie had just undergone a rebrand so it's actually Ukie's thirtieth birthday in 2019 and its original name was ELSPA and it originally just looked after publishers in the games industry. And, then as the industry moved on and changed, and business models changed and the old ecosystem changed, in 2010 it rebranded and opened its doors up to developers and so on. So it needed a new leadership to do new things and to take through that, the new organisation if you like into the new future. So I think I was quite a risky candidate and, of course, then there are all the comments of 'ooh, she's a woman' and that was hilarious and I remember at my final interview I had the most horrendous cold, I mean, I call it man flu. It was a really bad cold and I was sniffing throughout and I thought I've got absolutely no chance of getting this, and then I got told I'd got it, so I was absolutely completely thrilled. And I remember coming in, I started in January 2012, and I came in to meet the team just before Christmas in the December and I think quite a few people were a bit taken aback, you know, when they met me because they didn't know who'd got the job and it was like, 'Oh, Oh, it's a woman!' [laughs] And not an old woman at that time. So, yeah, I was headhunted and it was the longest I've been in one single job.

00:44:26

*So, looking at the UK games map produced by Ukie in collaboration with Nesta, there are 2,277 games companies, 102 universities and 151 service companies related to video games in the UK only. So, what do you think makes the UK industry different in comparison with the US or Japan or the rest of Europe?*

So the games map – gamesmap.uk – I suppose that was a little bit of my geography coming out in me [laughs] sort of places important, and places important in terms of who you are, what shapes you, which is why again I find that question ‘where are you from’ quite difficult because you’re like a magnet, or a katamari, you know, you roll around life and you pick up these influences and pick up things that shape you constantly. You’re not just this homogeneous thing that comes from one place and that’s who you are. So I’ve always felt places important and it was important, I think, to show the breadth of the industry. When you look at the games industry compared to other creative industries or tech sectors we’re not all centred in London and the birth of the games industry, really, in the UK was in Dundee, in Leamington. And, of course, in Dundee you had the Timex factory which was making the Spectrum and the creator of Grand Theft Auto, the original game from DMA Designs. He was an apprentice working, an apprentice engineer working in the Timex factory. And so we have these heartlands, I guess, of the games industry over the last forty or so years in the UK which has been in peoples’ bedrooms and then in centres like Leamington Spa or Dundee and now other areas. So it was important to visually represent that because place matters. If you’re making games in Dundee, you’re making games in Liverpool or making games in London or .. you are influenced by the culture around you, by the community, by the people, and I think that is really what makes the UK quite unique. I think we’re such a diverse country, we’re such a diverse city in London and we have all these different influences. We’re also quite quirky as a little island, I mean, we’re a tiny island really, relatively small population, but we spend a lot on games. One in three people play games regularly. And we’ve got this fantastic heritage of film, television, advertising, creativity, innovation, technology; we’re really innovators and creators, artists, for such a tiny island. So I think it’s all that mix of influences, our unique personalities, you know, when you go just an hour outside of London, or even the differences between Glasgow and Edinburgh, are quite extreme [laughs]. We have different accents, regional accents, you know, it’s amazing, and so I think that is what makes the UK quite different. I think that our history is embedded in us, we are

quite quirky, we have got a distinct kind of sense of humour as Brits, our comedy and our film, our IP works across the world in that sense. So I think all of that influences the kind of game makers we are and the kind of games that we make. And we were at it at a really early stage as well. So we are ... you know, the people who started the industry in this country which was right at the beginning of what we call the games industry globally, are still alive [laughs]. Yet it's only a really very short history, forty or so years, so I think it is very true that we are globally recognised for our creativity. We had a real strength in console games, in particular, and again we had powerhouses around the country where some absolutely fantastic games were being made. A lot of those studios have subsequently disappeared but in their place lots and lots of flowers have bloomed. And I think that's because we've got this innate curiosity, we do have this mix of different sectors, innovation, creativity, art; we've got the best universities, we've got curious minds and I think that's what makes us great.

49:37:00

*Going back to the BBC Micro. So, BBC Micro is a series of microcomputers that were designed in the eighties and designed and built by the Acorn Computer Company for the BBC computer literacy project. What impact do you think the BBC Micro had for the UK game industry and what about now?*

It had undoubtedly a huge impact and not just because it actually was producing these physical machines but because of all the education around it and all the support, and even the programmes on telly and some of the early games programmes as well. So those computers were, you know, they didn't have, you know, that's what programming was, right, we had to give them instructions. And so it created this whole generation of people in their bedrooms at home who were giving these computers instructions, used machines, who were able to access them and were able to create this whole literacy and this whole knowledge and push some boundaries and, you know, human nature wants to play and have fun. They were always kind of sold us – you can do your home accounts and you can do .. that was pretty boring, you know, let's have fun on them. Let's like create new arts. So it was undoubtedly really influential but I think the world is divided in terms of what hardware you

started on. But I think, now, it's still a very very important part of our heritage and some of the earliest games that we remember playing were created by teenagers in their bedrooms who are now running successful companies. A lot of them happen to be male but I think we kind of lost it in the nineties and we sort of know that, particularly around education in terms of how we were keeping up that literacy around programming and dispelling some of the stereotypes around programming. Unfortunately I think that computer science now is still a little bit stereotyped; we still see not enough girls taking computer science up, we struggle to teach it creatively and we really need to teach it creatively. There are lots and lots of brilliant initiatives but I think we've got some work to do. We've got half ... in terms of game playing population it's half half, male female, and girls and women have always played games. There are more adult women playing games in the US than there are teenage boys. They're just all different kinds of games and importantly we need then the creators of games coming with new ideas, new stories, new characters, new topics that they want to explore through this wonderful format we call games. We need diverse people creating them so I think we had a bit of a hiccup in this country in terms of how we teach computer science and ICT in the nineties and hopefully we're trying to get back on track.

53:06:6

*So players and video games are taking over pubs, nightclubs, galleries and museums also theatre. There is an experimental theatres in Camden which organises performances and experimental Beta versions of games once a year. So .... as an example. In this month there is an exhibition about videogames at the Victoria and Albert Museum in London. Did you see it?*

Uhuh.

*Visiting the exhibition I noticed that one of the rooms, there are two lightboxes hanging from the ceiling. One is like Arbiter Games, a gherkin, which you've probably already answered the question and the other question is, like why the games are so white so introducing another kind of thing. Would you like to say something about these or something else, not the stereotypes about the videogame industry.*

I think there's a real problem in society where we still stereotype games and people who play games. I don't use the term 'gamers' deliberately because I think it carries those stereotypes. No one asks me if I'm a filmer or a booker, you know, they just don't ask me that; it's part of my cultural diet and when people say 'do you play games', well of course I bloody play games [laughs]. I watch films, watch TV, I watch Netflix, I read books, I culturally consume [laughs] I am a consumer. And I think it's really fantastic to see the V&A exhibition in particular because you try and explain to people that, Yes, we need programmers, we need mathematicians, we need people who understand physics. But we need artists, we need writers, we need musicians, we need people who understand psychology, we need business, we need legal people, you know, this is a proper sector with proper jobs and a whole bunch of different jobs so people kind of assume that – and this is why place matters - and who you are matters when you're making a creative product no matter how big the team, you leave a bit of yourself in there or your perspective that's been shaped by your culture and your place and your community, you bring that to your creativity in your work. So what the V&A exhibition does, I think for the first time, is really unpeel those layers and show to the general public – I took my eleven year old niece along who I'm desperate to get into the games industry because she's got that real mix of 'loves engineering and maths and is very creative' and so she is a polymath and showing her that some games just start with a pen stroke, with a concept sketch, you know, is someone going out on a nature walk and sketching something in pencil and writing a little bit and then kind of thinking about how this works and what that journey of a seed might be, or you know. So I think what it does is show those artefacts, show those physical drawings, those notebooks, those game designs on a wall with post-it notes. It's a very visceral kind of experience. I do think that we, in society, and particularly the media, kind of presents games in a particular way in terms of mainstream media. I don't know why they still fear games, they still fear people who play games, they still make the assumptions that this is an isolated activity that is bad for you. And you've got all sorts of terrible reporting, and I can say because I used to be a journalist, on big games that are massive playground crazes, that are encouraging kids to get those transferable skills that we so need for a future society that we bemoan that we don't have. We need people who can communicate, who can be strategic, who can work in teams, who have resilience, who can be agile,

who can be curious. Those are the sort of things that if you listen to a group of teenagers playing a particular kind of game, whether they might be remote, they might be in the same room, but they're planning, they've got tactics, they've got strategy, they're talking to each other. I think we just entirely misunderstand games and the way that the Press then presents games and talks about games, it's only a very very very small section of games in terms of the representation. We do have black characters in games, we do have people of colour in games but entirely not enough and that's because it goes down to the kinds of diverse teams that we do have or don't have, not just in terms of how you embody your identity and your diversity but also the diversity perspectives, you know different world view, different experience of life because of who you are or where you've been, bringing that. So there is a job to be done but I think we beat ourselves up a lot as a games industry. We're extremely adaptive, we have this real time connection now, because of the Internet, with our players. We iterate all the time. Games are live services now. And you get games that might just be a five hour narrative experience. There's such a diversity of types of games. You never hear about those in the public sphere and I think that there are so many interesting stories to be told from so many more interesting diverse characters. I think what people like Rami Ismail is doing to really highlight that, to highlight these entire territories that are desperate to have their voices heard through their games on a global stage is really important. Everyone in the games industry talks about China as a world of opportunity because of the market size there but we have the whole of the African continent, we have the whole of the Indian continent, we have a whole world out there of potential creators and people who are already creating and we need to, as an industry, support that whole global network of voices and difference.

00:59:27

*You are Vice President for Games and Accessibility Charity Special Effect and the UK government sector champion for disabilities, which is another topic about diversity in videogames. Can you tell us more about your roles and your thoughts.*

Games bring joy to millions, billions of people and there's been a big focus on how do we make games from the conception just accessible at birth. Because why not

[laughs]. And sometimes it's just a lack of understanding of how to do that or, you know, just it's important that accessibility champions are championing that within their companies. You look at what Hugh did with the colour blindness mode and that opened up to a whole new audience this mobile game. And so it's very important and I think particularly around, we know that people who are neuro diverse so might be on the autism spectrum which I believe we all are – neuro diverse – that we know about the incredible stories of how particularly young people or adults with quite severe kind of levels of autism, how much support and comfort and help that they get from playing games. Whether that be from Minecraft or any other kind of game. I also did, I remember doing a couple of feature pieces as a journalist about this photographer called Robbie Cooper who did this exhibition called Alter Egos and he went around the world and photographed people in their meet space if you like, in their physical life, and their avatars in their game worlds, and there were a couple of photos that really struck me. One boy who had very severe cystic fibrosis and he was a top guild leader in his game and that's where he felt free and free of his wheelchair and free of his apparatus and, you know, just could hang out with his friends again. And that's incredibly important for us as humans. Games can do that way beyond any other media I know. So it's really important that we are looking at accessibility right from the get go, that we're modifying controllers, where we need, to so that people with physical disabilities can also once again perhaps get control in their lives again or just do something as simple as play football with their friends in a game. So special effect work with clients who either might have a congenital disability or they might have had a serious accident and suddenly their world has been turned upside down, so they'll work on bespoke solutions particularly for those individual clients. But they have also done a lot of work with Microsoft Xbox and Microsoft released commercially for the first time a fully adaptive controller that anyone can buy and programme and it's got big buttons so it fits to your needs. And I just think that's so important and I think the complete undervaluing of people with disabilities in our employment figures, in opportunities for work, for creativity, for telling new stories, we've got to fix that as a society. There's a huge untapped potential there but there are just basic things that we as a society just do not make it easy for people to participate in society as much as they really really want to.

*Changing the topic, what about AR and VR?*

So AR and VR is interesting. I think we, those people who have been around long enough, you always see this with technology and particularly with hardware, when something is too cumbersome, too expensive, too cabled, too complicated, not easy to set up, you know, not pick up and play, then it doesn't necessarily hit the mainstream market. I think VR – obviously VR technology has been around for many many years - the first consumer versions are still I think too expensive for a lot of people. It's a big decision to pay for that kind of hardware and if you don't have all your friends with it then it's kind of a solitary experience. I absolutely love VR and I believe it has a real future and I really am incredibly interested in the way it's been used in treatment therapies, in particular with post traumatic stress disorder but also Alzheimer's and, you know, I think mindfulness, and if I can just step on a VR headset and escape into my perfect beach for ten minutes of meditation, that's what I want to be able to do. But then I was also a massive fan of Second Life which was a big social virtual world and I used to hang out there with my friends and we used to go to the cinema in Second Life, we used to go to gigs in Second Life together, we used to go to lectures in Second Life together and we were all over the world. And I could fly, and I want that VR experience, I want that Second Life type VR experience where I am hanging out with my friends and I'm sitting by a campfire with them and just chewing the fat. That for me is my ideal VR. And I think, again, when you look at people with accessibility issues, we're an ageing population generally, I think it's incredibly important that we're able to participate still in leisure activities and bond with people in a more meaningful way, even if it is still from your sofa, for various reasons, if you can't get out of the house. So I think it's got real potential.

I think AR is obviously where most people are putting their bets and, again, we saw some incredible stories of parents of kids with autism who, for the first time, broke out of their timetable or their schedule, or for the first time actually looked someone in the eye and said 'thank you'. Their stories just make you cry. I believe that the workplace of the future is a mixed reality workplace; we've got a whole generation of young people who expect to modify and transact with the world in a completely different way and we are underestimating that. The impact of games like Minecraft



on a mindset is huge and as soon as you can, you know, you see the big Utopian visions and the demos of what you can do with a hololens or what you can do or not with Magic Leap. That is an incredibly exciting future. I want to work in that kind of workplace where ... when I saw the original demos of the Big Engine and you can just pull it out and, you know, it's just incredible. The Val's Demo as well. I'm terrified of heights and it's so exciting floating in space and going *Aagh* but then I'm able to kind of grab hold of something and open it apart and see inner workings. If I had had that kind of experience when I was doing physics or biology I probably would have been a physicist [laughs] because I could see it. My problem with physics was always 'show me, I can't, I don't believe you that this table is made of atoms that are just slightly tighter, I don't understand it' so I think it's got a huge potential both of those technologies. But just at different times.

1:07:50

*Coming back to your personal and professional life what were the key decisions, positive and negative, you made and what difference did they make?*

I think I'm very instinct driven and I think – I don't really know what key decisions because I'm very much someone who looks back on life and every decision you made, it may not be the right decision but that doesn't matter. There is no right or wrong necessarily. All your decisions kind of lead you to where you are now. If I had decided to take a risk in 2000 and move to San Francisco and Silicon Valley as was, at that point right at the dotcom boom, the bubble burst, I would be in a completely different place. You know, I turned down a job to work for Time.Com Magazine and be their kind of tech person and move to New York. I turned that down, you know, I sometimes wonder where would I be. I just wouldn't be here. So I don't really look back and kind of go 'what would I do differently or what were the key decisions'. I don't really know. I kind of fall into things [laughs]. And it's just the flow of life. I think if I had been more confident in my abilities maybe I would have done things differently. I think everyone - well not everyone, there are people who have no problem with confidence - but I think there's a lot in me that is, as a lot of women, will still kind of feel 'what am I doing here, how did I get here, why am I getting this award when you over there, you I see as doing amazing things, why are

you not getting this award'. So I don't really know what the key decisions, I think, definitely one of them was trusting my lecturer who gave me that book and I think my PhD supervisor also kind of helped me to continue with the PhD because he said 'remember, your PhD is just like your driving licence', it just gives you that licence, it's not your life's work, it's not the be all and end all, it just gives you that permission and gives you that licence. So don't worry that you don't think it's written in the way that you want to write it and, you know, so I think decisions really were just about other people giving me that confidence or that support to continue.

1:10:40

*What is your proudest achievement during your career?*

I think I'd have to say being awarded an OBE. My mum unfortunately died ten years ago so she died before I got it, before I even moved to Channel 4, so she didn't kind of see all the stuff that I did and the achievements and the awards that I won for projects that I did as well. And she would have been, she always scoffed at them anyway, [laughs] 'it's that, why are they giving other buggers's efforts', you know, as she used to call them as everyone does in Scotland. And that was a great achievement 'cos it was great to see anyone who, like, I've got a very small family but my family and close friends kind of turning out for the lunch or the drinks to celebrate. It was nice. It was a real honour and, again, incredibly humbling because it was for creative industries so recognising a lot of the stuff that I'd done way before Ukie because, when I look back at those other projects, even before Channel 4, a lot of them were really quite, we were at the cutting edge, there was a whole group of us who I'm still in contact with and we were doing some really risky things and we were really like at the cutting edge of technology, so yeah, I think the OBE was probably the greatest thing so far.

1:12:17

*What do you think are the biggest challenges and issues related to the videogames and IT for the next five years? And what about what will change in twenty years?*

So I think most definitely how we actually encourage half the population [laughs] I think we're not currently encouraging ie girls into these subjects. I think we've got to really completely change the way we teach computer science, the way that we, I think we need to create a generation of polymaths so enabling young people to take art subjects with tech subjects is incredibly important. We're really focused in society at the moment on stem stem stem stem. Unless you have an understanding of humanities and art and what this kind of, this is a medium of expression we're dealing with when it comes to technology and we're entering into a fourth industrial revolution which is characterised by artificial intelligence and biotechnology and block chain and so on and big data and algorithmic thinking, we're not teaching the next generation how to navigate that society or that life. That toolset includes an understanding of humans' empathy, emotional intelligence so I think that's a real challenge for the IT sector and for the games. I think games can lead the way in that because we require those mix of peoples with those skills. So I think diversity and inclusion is definitely a huge challenge but I think the industry and games industry in particular is moving with it and we're adapting and we're trying to figure out what best practice looks like, how do you recruit in a more open way and inclusive way, how do you go that extra mile to make sure that you're really trying to skill up the next generation. And I think in twenty years time it's going to be incredibly interesting to see. And I think the impact of the Internet and the Information Age is only just being felt now. We forgot to teach an entire generation of kids growing up with the Internet how to be online, how to protect themselves, how to manage their identities and I think we didn't give them any kind of digital literacy about fake news. Fake news is not new [laughs] - journalism. I think that the big challenge will be how we deal as society with what we call the fourth industrial revolution. How do we deal with this, how do we cultivate the skills that we need to navigate this. What are those jobs that two-thirds of children now will be in. Two-thirds of children now will be in jobs that don't exist yet. So it's a real challenge for society. I think we're seeing, ... absolutely again I'd go back to geography principles and my whole interest in geography in the first place around how power and global power and global economics and global politics is being shaken at its core right now and a lot of this is to do with just how we are moving from this Information Age and how the Internet is impacting freedom of expression, voice, power. So I think that's a huge challenge for us in the next twenty years.

1:15:41

*And going back to political geography will Brexit have an impact on the videogames industry in the UK?*

The main concerns that we have are around the ability to bring in international talent. We make diverse games and different games that are globally successful because we have people with those skillsets, no matter where they're from but bringing that perspective with them. We are in competition with Fintech and other tech sectors for those same skillsets. We don't have enough technical artists, we don't have enough people in the UK currently coming through the system with those skillsets so we do need to recruit, we need to build teams in order to build games. So I think one of the biggest problems is that the majority of our 2000 companies across the UK who are active in games are small companies and so they don't necessarily have the budgets, and they can't ... even the big companies ... cannot wait six months, eight months, twelve months to bring in that AI programmer that they need that everyone else is after from wherever they are. We know that sixty-one per cent of companies in the UK employ international talent already, fifty-seven per cent of them employ EU talent and they make up around a third of studios. So EU talent in particular is very important. We are the leading game development hub in Europe at the moment and I do believe that we've got enough in terms of positives that make the UK still an extremely desirable destination but we need to get that immigration system right. We know that other cities in Europe are making overtures to companies and saying 'you should base here'. The second biggest issue really is about freeflow data and getting a data adequacy decision from Europe. We as a digital economy business rely on a instantaneous connection with our players and dataflows across the globe so unless we have a legal basis for that come 29<sup>th</sup> of March it's going to be quite difficult. But we work very hard to lobby governments along with the other tech and creative sectors to make sure that those things are in place. I do think that we've got so much going for us as an industry right now and we're really going into a golden age, particularly with the independent game developing scene. Emerging sectors like E-sport and Breakout, successes like Fortnite and Battle Royale genres, you know, we're diversity of people's perspectives to keep inventing.

1:18:36

*Can I ask you what advice you would give to someone entering the videogame industry today and in particular special advice to women.*

I think you've got to understand that the games industry is really fast-moving. And it can be very personal, there's a lot of developers who want to make, just like art, that particular kind of game or to tell that personal story. And there's room for all of that. It's not easy, a lot of people will come out of education or not and want to set up their own company to have that autonomy. It's really tough in any industry, being a start-up, and that's why resilience, agility, adaptability is really important, and curiosity, to make sure you keep yourself checked and you've got those skillsets, which can be learned, so making sure that you're being inspired by books, by art, by music, by film, by nature. Getting out, taking a walk, speaking to people, meeting people, networking. I think, as a woman, don't believe the Press [laughs]. You can find your tribes and you can find your support networks in different ways. Everybody, man, woman, non-identifying, male, female, everybody needs support. Everyone feels down at some point, it's ok not to be happy all the time, it's ok to find it difficult. But remembering that you're not the only one who might be finding things difficult is important and you can get that support. I find the industry to be an incredibly close and supportive industry in the UK. When a business goes under there's always people saying 'we need some programmers' or 'come and speak to us, we'll try and help get you a new job'. It's a really supportive industry. Don't be put off by people claiming that, you know, there's a difference between what happens in online toxic communities in general in society and what happens when you're in an industry. This is just about being human. These kinds of things happen in any business, in any sector, in any area of life. So I think sometimes we scare women off but it's only because we're quite self-reflective and we're quite public about that. And they shouldn't be scared. It's one of the most rewarding careers and jobs that you can ever have. You don't necessarily need - it's depending on what kind of job you want to go into, there are so many roles available - you don't necessarily need a computer games degree. You might have one, that's great, but I think it's having this broad curiosity and showing these other softer skills and transferrable skills is really key. If you want

to go into a particular technical discipline like art you need a portfolio. If you want to actually be making games make some games. We have free tools at the biggest and best studios in the world to use, like Unreal Engine and Unity. They are free. And there's lots of advice and support and programmes out there that will help you learn how to be making your games. Lots of influences that you can get from BAFTA Young Game Designer competition or there's local game jams that happen. So make games. Keep making games. Also, I think with women we welcome people from all backgrounds and there's a couple of really interesting programmes that try and help people returning or retraining from another job. There are key skillsets that you might have had in a marketing job or in another sector that, actually, if you like games and you're interested in this area, you can get roles in the games industry and be retrained. And I think to make it to senior positions – we need more women in senior positions in the games industry and more people of difference anyway in senior positions – that really makes a big difference in how your organisation works. Companies are doing a lot to try and help that. You don't necessarily need a mentor, as a woman, in order to be successful. Everyone needs support and people to talk to.

*Thank you, Jo, it's been a real pleasure talking to you.*

Thank you.

[recording ends at 1:23:45]