



# **Sir Bill Thomas**

Interviewed by

**Tom Abram**

21<sup>st</sup> November 2022

Via Zoom

Copyright

**Archives of IT**

(Registered Charity 1164198)

*Welcome to the Archives of IT. I'm Tom Abram. It's November the 21<sup>st</sup> 2022, and we are on Zoom. I'm talking today to Sir Bill Thomas, who is perhaps best known in the IT world as the Executive Vice-President for Europe, Middle East and Africa in EDS, the Dallas-based Electronic Data Systems, one of the few Brits to reach the executive committee, having risen from the ranks of System Designers. And, and after EDS, he oversaw the integration into Hewlett Packard Enterprise Systems, and since 2009 has pursued a portfolio career as chairman, non-executive of a number of diverse businesses and charities. So Bill, welcome, nice to see you.*

Hello Tom, it's lovely to see you again.

[00:01:07]

*So, if we go back to the beginning. You were born in 1959, in Nelson- sorry, in Colne, Lancashire, in the... [laughs] Is that a terrible thing to say, Nelson...*

That's an awful thing to say for a cricketer.

*Yes. So, yes, in Colne in Lancashire, in 1959. And your father was a schoolteacher, and your mother was a publican, which sounds like an interesting combination.*

Yes, it really was Tom. She had sort of stopped being a publican by the time I was born. My mother was an amazing woman. She was born in '21 in Swansea in Wales. So at the age of 21 herself, in 1942, all the men were going away to war, and my mother, at the age of 21, ended up with her name over the door of two pubs in Swansea. She was the landlady of two pubs. And she ran those for, about two years, and then she, she went into the Women's RAF as well, and met my father there. But for a young 21-year-old girl, running the Uplands Hotel and Number Ten in Swansea, which were two full-on pubs, were, it took a lot of character to do that. I was very proud of her.

*So she, she met your father in Swansea.*

They met in the Air Force, at Stormy Down, an Air Force base. My father had recently come back. He served in the RAF right from '39, through, was stationed in

South Africa for a good while. And then he met my mother when he came back. And then when they left, when they left in 1945, they settled in Colne in Lancashire. My father got a job there; even though he was from another town in Lancashire, from St Helens, he got a job teaching in Colne in Lancashire, and his career stayed there for the rest of his life really.

[00:02:58]

*Right. So... So he was from St Helens, and his father had been a miner, I understand.*

Yes. His father Edward, Edward Thomas, was born in Anglesey, and came from, we've traced his family back to the sixteenth century in Anglesey, and they're all miners, right the way back, right the way back in time. And then, my grandfather left Anglesey to get a job in St Helens, walked from Anglesey to St Helens, and went into the minefields in St Helens, until there was an accident there.

*Right. So there was a mining community in St Helens at that time?*

There was, there absolutely was. And, I'm sure on my, on his wife's side, I think his wife, some of her family may have come from Anglesey as well. Because, it seems very coincidental that a bunch of miners from Anglesey ended up with a bunch of miners from St Helens, and he married a lady who had Welsh ancestry as well.

*So...*

But the interesting thing there, Tom, is, my father, my father was in a seminary, with his brother, and, my father was two years older than his brother, but they were both in this seminary, and my grandfather was injured in an accident at the mine in St Helens, and the local priest got my father and his brother, they tossed a coin to see which one would leave to earn a living for the family. They tossed the coin, and my father came out.

[00:04:28]

*Right. So, being in a seminary then, equipped him with the, the skills to be a schoolmaster, did it? I'm not quite sure what they do in seminaries really, apart from, learn to be priests, don't they?*

Well they do, yes. So he did lots of Latin, and he did some maths, and by the time he came out... He went and worked in local government, and as I said, earned money for the family. And then my grandfather recovered sufficient to do surface work in St Helens, and he could earn a living again, and then my father had the chance to go off to teacher training college.

*Right, OK, so he went off to teacher training college then.*

Yes.

*So, he was the first generation to go to kind of degree level of education?*

Yes. Yeah, my dad did a teacher training certificate at St Mary's in Strawberry Hill in Twickenham.

*Oh right. Yup. Yeah. Well-known teachers training college, yes.*

Yes. Yes.

[00:05:32]

*And... But, all of your generation went off to university by the look of it.*

No. My siblings went to teacher training college, and then later on went into education. I was the first to go straight into university from school.

*Right. And presumably, your parents were very keen on education, they were an influencer in you in that kind of direction, were they?*

They were Tom, but my father was, he was never one for pushing, pushing his kids really. Much more important just to be, to be happy, and have a good childhood, and,

grow up in a, you know, a sort of caring environment, and, all that sort of stuff seemed to take care of itself back in the Seventies. I don't recall being under any great pressure to do well at school, or to go to college. But it just seemed a very natural thing to do.

[00:06:30]

*Mm. So what was life like in Colne in the, in the Sixties and Seventies then?*

Well, of course, having never been anywhere else, to me it was, everything was completely normal. I mean, the truth was, it was a really vibrant mill town in its time. It was very, known for the cotton industry. But by the time the Seventies came along, it was struggling economically, and a lot of the mills were falling on hard times, a lot of pressure and competition from the Far East was seeing the Lancashire cotton mills close. So it went through a difficult time. And then, you know, later into the Seventies, into the Eighties particularly, as the restructuring of the UK economy took place, it had a really hard time. But it always a lovely place. It was very friendly people, you know, just nestled on the foot of, of Pendle Hill, a lovely place to go.

[00:07:28]

*Yes. So, you... At school, what was good about school?*

Well, so I went to Sacred Heart Roman Catholic infant and junior school, which incidentally my father, my father at one stage was the deputy headmaster there, and my nephew is the headmaster there now, at the junior school, which is really nice, nice for continuity. But it was a lovely school, and it was a very simple town school. The infant school particularly was taught mainly but not exclusively by nuns, and people have very mixed experiences and memories of being taught by nuns. The ones that taught me were very kind, so, it was a, it was a nice place to be at school. And it was just, you know, a very normal, very normal town school, a mill town school, lots of lads whose parents had been through the mills, and worked in the mills, or worked in the local felt factories, things like that. Just a very normal school, Tom.

*Yes. But what did you like? Was it... You know, you took to lessons, did you, or, or were you more concerned with football and cricket?*

Not particularly I was always crazy about sports, so it was always football and rugby and cricket for me. I would, I would pay attention in school, and I'd do some work and things like that, but, I must admit, that was never a big priority for me, Tom. I sort of, I did enough to stay more or less out of trouble most of the time. But it was all about, it was all about Wednesday afternoons and the weekends and sports; whenever I could get a pair of boots on, I was much happier then.

*And from the Sacred Heart infants, you went on to St Theodore's secondary school.*

It was, yeah. There's a curious thing. Because I've come up through the Catholic education system, there wasn't a Catholic grammar school, but there was a newly opened, relatively newly opened, comprehensive school in Burnley, and all the lads from the outlying towns around Burnley, if they were in the Catholic system, and they passed the Eleven Plus, then they would go to St Theodore's. So along with a bunch of other guys from Nelson and Colne, we passed the Eleven Plus and we congregated at St Theodore's in Burnley, which was a very very long way away from Colne. It was almost seven miles. So [laughs], a big adventure, getting this big old double-decker bus over the hills every day. And we had very, some very happy years there, it was a really great school, all-boys school, right up until sixth form. The official religion was Catholicism; the unofficial and much more important religion was football. It definitely was. And that was, that was what occupied most of our attention there. So it was a curious school. It was streamed on all the main subjects, and, it was very much into promotions and relegations at the end of every set of exams. So it was a very very conventional sort of academic driven school in that sense, but it was comprehensive. So, you know, you had got guys who would, in Colne and Nelson would have gone to a secondary modern school, were in the same school as guys who would have gone to a classical Burnley grammar school or Nelson and Colne grammar school. So it was a funny school, Tom. It was selective for people from outside of Burnley, but then, when you got here, it was very much streamed. And as I said, it was, it was strong on, very strong on sport, and, you know, good enough, good enough school, we got lots of lads to university to every year, that sort of thing.

*So you had to pass the Eleven Pass to go there, because you were outside the...*

Yes. Yes, that's right.

*Odd, isn't it.*

It is really. It's very strange.

[00:11:20]

*And did you do well then in your exams?*

I did OK, yeah. I got a bunch of As and Bs and all that sort of stuff, and then, focused on maths and physics in the sixth form. One of the nice things about the school is, my sister went teaching there the year after I... The year after I left university my sister went teaching there, and, I think she taught 30 years there. I went back and did prize night and that sort of stuff. But it was nice to see her there. And yeah, I did fine there. And I went through the sixth form, and then, I was meant to go off to Imperial College, but I couldn't get any accommodation in '78. '78, there was a real mess-up at Imperial College on accommodation, and I ended up going to Leeds instead, and my life was completely different as a result.

*Really?*

Yes.

*So, you got into Imperial, but they couldn't fit you in in London?*

Yeah. It was, it was... There was something went wrong in London University that year with accommodation. And, I was into Imperial, but, I just couldn't sort out accommodation. And the idea of going down and getting digs, didn't seem a very attractive option, so I took my chance and went to Leeds, and that's where I met Julie, my wife Julie, who you know.

*Yeah. There you are. [laughs] Every cloud and all that.*

Absolutely. Well, it's funny, Tom, that's what life turns on, life turns on really timely decisions like that.

*Yes. Yes.*

If I had got a flat, if I had got a flat in London, then my life would have been completely different.

*Do you mean just because you didn't meet your wife, or, or you wouldn't have met the, the same wife, or, or the...?*

Well that's, that's highly unlikely. It's possible, but it's highly unlikely I'd have met her.

[00:13:05]

*Yes. Yes, you're right. So out of all of that time at school and, in your childhood, are there key people you look back and think influenced you in the direction? I mean, what made you go and do maths, for example?*

I think a couple of things. It's very strange, because I was never, I never sort of felt particularly driven as a schoolboy, but, I was really influenced by my father's experience in the Second World War in the RAF. So if you look at, you know, I think my dad was 47 when I was born, yeah, my dad was 47, so in some ways he was more like a grandfather to me than a father, but, you know, he was a wonderful father. And I was heavily influenced by listening to him and what had happened to him in the Second World War. And I sort of knew, I knew from a very early age that what I wanted to do was, work at, do maths and then go into the defence industry. That's just what I wanted to do. I can't really explain why I wanted to do it. You know, like a lot of us, I found maths quite, you know, it was quite good fun, and it's quite straightforward and quite easy. But, I certainly preferred it to any other subject. I did lots of other subjects, but I preferred maths. And it just seemed the natural thing to do. So, back in the wonderful time in the 1970s, Tom, we had no concerns about, not only did we not worry about fees, we, you know, we even might get some help for



living expenses and things like that, which makes such a difference to people from a different sort of, a less advantaged background. And so, it was a lovely journey really through school. I played really good sport, played for Burnley Schoolboys, played for Nelson and Colne Schoolboys before that, played on Turf Moor, played at Blackburn Rovers pitch. Just really enjoyed my sport, and as I said, did enough to sort of get by academically. And then, when it came time to pick the universities and things, it just seemed glaringly obvious that I was going to do maths. Never even thought about doing physics, or even joint honours or anything like that. I did want to do economics in the sixth form, which I would have loved, I liked economics, and I ended up studying economics later on, but in, you know, in our little corner of Burnley, the idea of doing economics with maths, that didn't pass the test. If you were going to do maths, you had to do physics, and there was no voice there saying, 'Actually, there's quite a lot of maths in economics; you know, you can, those two do go together quite well.' So, I could have ended up doing maths and economics, but I didn't. So I did straight maths. And, and that was me off to Leeds then.

*So your A Levels were two maths, physics and chemistry, or something like that?*

No. No, just double maths. Double maths, physics and general studies.

[00:15:58]

*Mhm. So... Well, I kind of understand having the ambition to do maths at university, but then to know that beyond that you wanted to work in the defence industry, I suppose, was that influenced by your father and the...?*

Absolutely. It was a coincidence. It wasn't a case of, I want to be in the defence industry, so I had better do maths. It wasn't, I'm going to do maths, so that will equip me for the defence industry. Both of those are two sort of... It was just a coincidence. I was very interested in the defence industry. And it was, it was influenced by my father, and sitting watching black and white films about Barnes Wallis and the bouncing bomb, people like that, as I'm sure influenced you as well. So it was part my father's influence, and being a, what were they called, Tom? They called us the Sputnik kids, didn't they? Sort of born in the Fifties, and then, all the news was about the space race, and about the Cold War, and all the different technical

challenges there. And so those two just coalesced. And it meant that, right from... That is true. Right from O Levels onwards, I knew I wanted to do maths, and I knew I wanted to work in the defence industry.

[00:17:09]

*So, you, you got your degree and went off and joined Marconi Space and Defence. Was that a simple decision, or did you do the milk round and, and eliminate possibilities?*

No, it was a fairly simple decision. They offered me a job, [laughs] and it was, 1981. What you need to do, Tom, is, if you ever see me going back to university, you need to sell all your stocks and shares, because every time I come out of university [laughs] there's an economic crisis. So, I got one in '81, and then in '91. So I, I do have this unfortunate ability to graduate in an economic crisis. So, I got a job with Marconi Space and Defence. I sort of, I applied to Farnborough as well, to the Royal Aircraft Establishment, and I didn't get a job there. And, you know, at the time I'd have loved to have done that. But anyway, I got my job at Marconi Space and Defence, down in Frimley in Surrey. Which was an interesting place to be. It was, you know, it was GEC, and it was part of the Marconi company, so it was doing very large cost-plus defence contracts that we came to know and love. And I had, I had a lot to learn, you know, I had done, I had done straight maths at university, and, there's just a lot of, there's a big gap between, you know, finishing maths at university, and then finding an application for that in engineering that really gets traction. So, I went in there, and, I ended up doing lots of mathematical modelling, which you could kind of do straight away, but you did need a lot of, you need to get up a curve in terms of how radar systems worked, and a lot to learn about that sort of stuff. So, I had a copy of Skolnik under my pillow for a long time, and Barton, and all those sort of books. And, I learnt something about that. And then started working on mathematical modelling stuff, about CAS screen antennas, and, that sort of thing. And then, I got into control theory and digital signal processing, which I really enjoyed, and, I just found it a very stimulating area. They put a little bit of money in to me in terms of some training, and, what you found, as you well know, Tom, is, you just found that the engineers were applying all the same stuff that we had learnt at college, but they just used

slightly different nomenclature, or different descriptions of it, but it's all the same stuff.

*Mm.*

And I ended up doing lots of work on non-Fourier techniques for spectrum analysis, to get super-resolution, that sort of stuff. So it was, it was weird stuff. It was called maximum entropy method spectral analysis, where you start extrapolating autocorrelation functions to get effectively a larger sample, so that when you do a transform, and you get the cylex or the rex curve. The main [inaud] is a lot narrower, so you do get good resolution. And I worked on that for patent recognition on tracker radar systems. I worked on... Have you heard of Blindfire, DN 181 Blindfire? That went with the Rapier system. So I worked on that. I think, I was only there for... I joined in August '81, and then, I moved on to SD when, maybe... [pause] I think it was March. I think it was March '84, I moved on.

[00:20:40]

*So, just out of curiosity. You were working at Marconi Space and Defence in Frimley, but next door there was EASAMS, wasn't there?*

There was, yes. Yes, there was.

*And they were doing all this modelling and, and mathematical analysis stuff. I know, because, at that time I, I was at Farnborough, and I used EASAMS to do that stuff. But what was the, what was the distinction then between what EASAMS did and what Marconi Space and Defence did?*

Oh it's night and day, Tom. I never worked at EASAMS. I knew a lot of very good guys who did. But would it be fair to say that EASAMS were doing the kind of studies that we did in SD and Scicon?

*Yes.*

Well the difference, the difference is, the kind of studies that, when I worked with you , that we would have done, would be, you know, from guys like Earwicker at RAE and, people like that. And it was very much R&D kind of projects, and if not pure R&D, then, very early stage R&D. Whereas, if you go to Marconi, they were working on operational systems. I mean, big scramble about, in 1982, getting stuff ready for the Falklands. So it was, it was very much, much nearer to production systems than, than [inaud] defence [inaud] stuff.

*Yeah, I can see that. All right, end of [inaud]. [laughs]*

Well you know, I didn't... If I had... It's 1981, you're 21 years old. You've been to Leeds and you've grown up in Lancashire. I didn't know who the hell EASAMS were, I didn't know who GEC were. I didn't even know EASAMS existed at that stage. I had probably heard of them, through playing cricket for Marconi. But I didn't know they did that sort of stuff.

[00:22:30]

And the truth is, I found, I found the work at Marconi very stimulating. I didn't find it a very meritocratic place. It was very much a, sort of, just getting on with stuff, and, performance didn't seem to make a lot of difference. And I was, I was ready to try what I hoped would be a more dynamic firm where it was a lot less bureaucratic. And so I went to, I went to, do you remember the Bosworth courses at Birmingham?

*Yes.*

Do you remember those? Radar signal processing ones .

*Yes.*

Well I went on the camera filtering course there, Jim Abbott was lecturing on.

*Oh yes.*

You remember big tall Jim?

*Mm. Yes.*

And, I was absolutely fascinated by the work he was doing. Jim's main applications then were in naval systems, in maritime stuff, and it was for navigational systems, using camera filtering , for navigational systems. And Jim did some really great talks on that course. And at the end of it, a good friend of mine, Graham Wiggins, from Marconi, knew Jim through squash at [inaud], and introduced me. And I ended up applying to SDL as it was, [inaud] firm , and then... So I jumped ship from GEC, which was probably one of the biggest engineering tech firms, certainly in the country, to one of the tiniest. I think I was, I was something like the first couple of hundred people into...

*Yeah.*

Yeah.

[00:24:05]

*Another slight digression I might bring up later on as well is, do you know Martin Read?*

I do know Martin. I worked on the board with Martin, yes.

*Because, at the time that you were at Marconi's, Martin Read was running Marconi's, wasn't he?*

Do you know, I don't know. It's...

*Well I think you... I've interviewed him. I've done one of these interviews with him.*

Yeah. Was he actually running it then?

*Sorry?*

Was he actually running it then?

*I believe he was, yes. I think...*

Well certainly Lord Weinstock was running GEC.

*Sorry?*

I remember Lord Weinstock was running GEC, and Peter Carrington, Peter Carrington resigned as chairman or, no, he had resigned as chairman over the Falklands. I can't remember now Tom, I'm losing my dates. But Peter Carrington... Was it Jim Prior? It might have been Jim Prior actually, was, Jim Prior was chairman then. But I didn't know Martin was running Marconi. Might have been. I know he eventually did.

*Yes. I think the timing's about right. Because, I mean, the interesting connection is of course, he went on to Logica, and...*

Absolutely. Yes.

*I was going to bring that up later, in terms of the comparisons between Logica and SD-Scicon. But let's park that for the moment, and go to your experience at Systems Designers.*

[00:25:31]

*So... Yeah, so you, you jumped ship down the road to, to Fleet presumably, was it then, or...?*

I did. I started work in Fleet. I absolutely did. And it was the 12<sup>th</sup> of March 1984. And I went in, and my first project, my first project was BATES. You remember BATES don't you?

*No .*

Battlefield Artillery Target Engagement System?

*Target Engagement System. Yes.*

And do you know, I met, I met a guy, I met one of your lads from Scicon on that project, and, we never... Oh what was he...? I can't remember his name now. Hugh somebody or other. But we were on the same... There was John Oliver, and Hugh, from Scicon. And we were in this team, a bunch of SDL lads, bunch of Scicon lads, working on this big, this big contract for another part of Marconi. And I sort of did, I probably did six months there, and then I was assigned across to... And I worked for a lovely man there called Joe Bleasdale, whose brother was Bleasdale computers. But anyway. And I left there, and I went over to Ferranti, and I worked on the vertical launch Sea Wolf at Ferranti, doing some digital signal processing stuff.

*Yes.*

And I did a little while there, and then... I had always wanted to get into the same group that Jim was in, and Tony Beard. And they had got a vacancy, and I went in to Tony's, Tony's consultancy team.

*Yes.*

And I worked on combat net radio, modelling of combat net radio for RSRE.

[00:27:20]

*And around that time, you went off to Brunel, didn't you, to do your [inaud].*

Did, yes. Yeah, I had sort of, just as I joined SDL, I had wanted to do a part-time master's degree. And I went to do... In digital systems, the subject. And all it was really doing was taking all the stuff that we had done in, in classical signal processing stuff, and transformational work, and then applying it into Designer Digital Systems[caps?]. So there was, there was a bit of artificial intelligence in there, there was a lot of patent recognition, a lot of signal processing, a lot of image processing, a lot of sort of, theoretical computer architecture work, a lot of parallel processing, all that kind of stuff. I loved the course, it was a really great course, and good old SDL put me through it. The fees were an eye-watering £250 a year, [laughs] which you

look back on, makes you wonder. But, yeah, so I did two years on that, and then did a dissertation with them. But by then, I had kind of done my first two years at SDL, and I was working for Tony Beard. And I ended up finishing that master's degree whilst I was working for Tony: well for Jim and Tony, under... Who was the wing commander, Tom? Mike Thurbon. Mike Thurbon.

*Yes.*

Good old Mike Thurbon.

*Yes.*

But by then I was kind of back in, back in Camberley, as I said, working on projects for... I used to love... I did love working for the, the research establishments. The progress was so interesting. Ian Makin, remember Ian, electronic warfare guy at Farnborough?

*Yes. Yeah.*

Yeah? Working with Jim and Chris on their [inaud] leaver system and putting it on to [inaud] parallel architectures and all that kind of stuff. Can't believe, sometimes, looking back I can't believe we got paid to do it, because, we enjoyed it so much. It was, the fact that we got paid to do it as well was incredible.

[00:29:28]

*Mm. Yeah. So when was that?*

I joined... I joined...

*It was the [inaud] project.*

Oh that.

*[inaud].*



Jim and Chris developed those algorithms, I would say, in the early, early-ish Eighties, maybe '83, '84. And the first project I worked on with them was in '86, and I did a mapping of their algorithms on to transputer architecture. And then in '87 Ian Makin gave us a contract to map those deinterleaving algorithms on to a Distributed Array Processor, the ICL DAP.

*Yes. Mm. Yeah. Interesting.*

Really good. Really great project.

[00:30:21]

*Right. So, just reflecting on Systems Designers and, and Scicon, and all of that. I'm interested in your views on this, because, there were seven characteristics of those firms that, that were similar, and seemed to be a problem, you know, in the sense that, Scicon was, was part-owned by BP, and, and SD was part-owned by British Aerospace. It had a large shareholding, didn't it, British Aerospace.*

Did it Tom? Was it SD-Scicon had British Aerospace, or SDL?

*Well it was, it was the sale of British Aerospace's shares that put SD-Scicon into play when EDS took it over.*

Right. So I, I think SDL, I think SDL was just [inaud] and various investors, and I think, I think... I think BAE took a chunk in SD-Scicon after we had merged.

*But... But those relationships, and indeed, you know, I mean, if you go on further, General Motors had a large stake in EDS, didn't it.*

They did, certainly did.

*There's this, there's this... There used to be this kind of notion that, non-IT companies should have a stake in IT, a technology company, because it would be good for them or something. But it never seemed to quite work out, that...*

Oh it did. Oh it did.

*It did?*

It did.

*Go on.*

Well, if you start at the end, and work backwards, the acquisition of EDS by General Motors was absolutely inspired. I mean, that was a brilliant deal for GM, brilliant. So, GM, GM sort of bought, they bought a... Very interesting. They bought a firm, because they thought it would get them an incredible capability to match the Japanese in terms of [inaud] technology. And that, that was, that was not the case. That wasn't the case. You know, EDS did not have that skill set. EDS had what you knew they had, Tom, they had a lot of back office IT kind of capability. But whilst GM were doing that, there were a bunch of financial strategists who were saying, no, we're going to buy this lot, we're going to use this lot to sort out our IT, and, you know, they will sort our IT out, because our IT needs sorting out, and we'll own them, and the money that we have to invest in fixing our IT will go through their P&L, and they will be valued as a tech stock, rather than as an automotive manufacturer. And if you look, then... You are testing me now, but I'm going to have a go. I think GM bought EDS in '84, and owned us for twelve years. And when they bought us, when they bought us, the spend on IT in GM was about four billion a year, and when they sold EDS the spend was still four billion a year, but they had rationalised all their infrastructure, all their networks, all their data centres. There were all common systems across the world between [inaud] and GM in America, and EDS. On the day EDS went in, it had four million dollars of GM revenue and one million of non-GM revenue. And by the time it exited, by the time it exited ownership by General Motors, my recollection is, we were about a nine billion turnover firm, and four was still GM, but the board had grown into five. So you look at, you look at... Now I can't, I am running out of steam now. I can't remember how much GM made on that disposal, but it was vast, it was vast. So [inaud] IT, and they had an incredibly lucrative disposal.

[00:34:44]

*So that worked for them then. But I mean, it was, going back to Scicon and SD-Scicon, it was BP's impatience and frustration with Scicon that led them to put it on the market for SD to buy.*

I mean I think... Sorry Tom.

*And, and similarly, it was British Aerospace's impatience with SD-Scicon that led them to put their shares up for sale and for EDS to acquire it. So, it, there seemed to be a bright idea there that maybe GM made work, but...*

Well think about the two sources of value.

Yes.

And GM saw two sources of value: sort out our technology, and pump something up ready for sale. And GM executed against both of those leavers of technology. Now if you look at, if you pick BAe selling off SD-Scicon, then, we, we had got into difficulty on fixed price real time systems at the time when we eventually got bought by EDS. And so, BAe... And then funnily enough, maybe BAe could have helped us on some of those projects, maybe, maybe not, but BAe never leaned in to get the value out of SD-Scicon, to help them on their defence side. And if you look at great men like Dick Evans, and Dick Evans was on the record as saying, you know, people ask, analysts asked Dick Evans who he thought would be his competitors in ten years' time, and he said, 'It's simple, it's EDS, it'll be EDS that we compete with.' So, some of the people over there, they did have a vision about, what would happen on the platforms is that the aeronautical platform itself would become of less and less value, and the systems on the platform would drive the value. And that's where he could see our skill set evolving to. And if you look at the business that you ran, then, the guys who really understood some complex weapons systems and some radar systems, and some electronic warfare systems, they were the guys in Scicon and in SDL. So, all that intellectual property was available to BAe, but I don't remember

there being a big pipe , Tom, between Fleet and Farnborough, and Filton and, those kind of places.

So...

But... So I would say, Tom, that, on that subject, I would say, it's all about the people, and it's all about, if the leadership in both sides of that acquisition, if the leadership have a joint vision of where value can be created, and work at it, then good things can happen. But I think that seemed to be missing between BP and Scicon, and it was missing between BAe and SD-Scicon.

[00:37:46]

*The other thing I was going to, the other connection I was going to make was, going back to the interview I did with Martin Read, and his reactions to Logica when he was put in, when he was headhunted to, to transform Logica from a software house into an IT business, you know, he comments on the culture of... These aren't exactly his words, but it's essentially, a bunch of bright people who aren't terribly interested in making money. [laughs]*

I can, I can get that, and, you know, I don't think that particular suit of clothes would look out of place on Scicon or SDL. I think SDL were more interested in making money than either of the other two. I think Scicon was a really serious defence and studies place. It was very serious about that. SDL was really, it was a systems integrator, and it didn't mind having a bunch of guys doing Scicon-like work. But if you look at when we came together, you will remember far better than I, but I think, the studies piece of SD-Scicon, I bet you four-fifths of it came from Scicon, and one-fifth from SDL. And then I think it was the, kind of the other way round on the systems integration piece.

Yes.

So I think SDL was more of a, of a business-y kind of place, but Logica was, Logica was more of a, oh what's the right word? It sort of... It's all, it was all very esoteric, and, it was, just wanted to do interesting things, and this money came along and that

was great. I mean in a funny old way, Tom, we could have a bit of fun over a beer, and decide what vehicle each company was.

*Yes.*

You know, I think, I think Logica might have been a, a Lamborghini or something like that; EDS would have been a Range Rover; and I don't know what Scicon would have been. What would Scicon have been?

*An MG.*

MG. Could be. Or a Jag. No, Scicon would have been a Jaguar, definitely. But there's something in that. But, they're all different... And those, those people, I mean Philip [inaud], what a great entrepreneur he was, Philip Hughes at Logica. You know, great people. But the sad thing is, if Richard was on this call... You've got to... What you've got to question is why all that innovation and all that smart capability, and you look at the FTSE now, look at the FTSE 350, and did it ever exist? Did it ever happen? It's very sad to see that none of that has come through into create great plc's that are still here in the UK.

*Yes. Yeah. Well that of course was one of Richard's always constant themes, wasn't it, that, even if the, in the Nineties, it was slipping away from UK dominance to, you know, all the companies were getting bought up, and the, the centre of gravity of the industry was moving to Europe and the USA.*

Yup. Yup.

[00:41:20]

*Anyway. Moving on. EDS, and... So EDS happened in 1991, didn't it?*

Yes.

*What were you doing in 1991, when, when EDS came along?*

I was waiting for you Tom. [laughs] In 1991? Well, if you remember, there was a moratorium on defence spend. Was that '89?

*Probably, yes. Yeah.*

'89 or '88 there was a big clamp-down. And we were scouting around and looking for ways to make money using our capabilities. And, if you remember at that time I was working with Tony Beard and Jim, and Rod Macintosh, on trying to take some of our IPR out into different places.

*Yes.*

So we took Andy Smith's frequency [inaud] experimental SAR processing facility, and we tried licensing that, which was a brilliant, brilliant capability for doing very high resolution SAR processing and frequency domain. So it was noncomputationally intensive, but high accuracy. And we had a go at selling that. And then, we did license those algorithms for [inaud] velocity prediction, for 155 millimetre Howitzers, but that wasn't exactly transferring [inaud] defence. But then we took all that image processing stuff that we had done with Chris Gent and Jim, from lots of different applications, and we did, we sort of went off into the security space, looking at working with security services and working overseas on covert surveillance type things. Do you remember [inaud]?

*[inaud].*

Yes, we did use it for facial recognition, and we also used it for city monitoring, to detect certain events in scenes. But I don't think we should say any more about that.

[00:43:25]

*Anyway, I kind of skipped over the integration of Scicon and SD didn't I.*

A little bit. Yep.

*Yes. I mean, do you have a memory of, of what that felt like at the time? You know, I mean, [inaud].*

It was really good actually. It was really good. Because, Scicon had a much more, Scicon had a much more disciplined market-facing approach than SD. You've got to bear in mind, I was in the bit of SD that did studies. I wasn't in the system integration piece. But the Scicon piece on... And what did, in our studies piece, we had certain relationships, and we just worked with those relationships. So we might walk down the corridor at Malvern or at RAE, and we'd walk past three offices that were doing very similar work, but because we didn't know them, nobody went and knocked on those doors. Whereas, my perception, and it's always perception, is, my perception is that Scicon just segmented the market in terms of, where's our, where is our skill set relevant, who are the people spending money in those markets, and then, over a period of time, got to know those people, got to understand their programmes, their ambitions, what their priorities were, and slowly but surely got on tendering lists, and, did your bit, and did your bid, and sometimes you won and sometimes you lost. But you did proper business development. So you had business managers for certain areas, you know, you had staff managers, and we were much more, from a business point of view we were a bit more immature. It was just sort of, we know these guys, do work for them, and don't worry about the rest. So, I really enjoyed Scicon in terms of, there's a lot broader, a lot broader business, and a lot more structured about understanding where we did operate and where we didn't.

[00:45:23]

*Yes. That's interesting. I mean, I, I think, I think probably the perception, a perception was that, you know, from the Scicon's side, that SD were a much more aggressive market-oriented company with, you know, people like Bruce Graham wasn't it in charge of the [laughs], the marketing and his band of salesmen. And... Yeah. And... I mean, it's, I think it was an interesting experience to go through in terms of acquisition. Sorry, this sounds like you interviewing me now. You know, because we, we had SD acquiring Scicon in 1988, and then in 1991 we had EDS acquiring SD-Scicon.*

Yes.

*[inaud] transition processes, and, you know, what was the difference between them, and which one worked better.*

Well, I think... I don't think there's any doubt about that. If you look at the growth that EDS got out of the SD-Scicon acquisition, then it looks spectacular. And I think, I have to say I think... You know, I was very junior. When Scicon was bought by SDL, I'm just seeing it from a guy in a group doing studies. But I think EDS were much more effective in thinking about... I mean, I have to say that EDS didn't realise what they were buying. EDS, they thought... I mean you look at, particularly your area, Tom, because if I remember rightly, you were in consultancy then, for SD-Scicon?

*Yes,*

And my recollection is, EDS thought they were buying a consultancy, and they did, but they thought they were buying people who knew about business process re-engineering, and were PWC-like consultants. They didn't realise they were buying Jeff Barton who knew about European fighter radar systems, and David Wrigley and his DAT, and Pete Smith and his directed energy weapons, [laughs] they didn't realise they were buying that. So EDS, EDS didn't realise what they were really buying in terms of a, of a consultancy. They did... I mean what I always quite like, Tom, and I used to explain to people, is, if you're thinking about value chain analysis, then, EDS were secondary value chain. So EDS were back office and data centres and networks and that kind of stuff, and SD-Scicon were primary value chain. So even in the manufacturing space, SD-Scicon would do ERP systems, logistics systems, you know, product data management for engineering, that kind of stuff. Whereas EDS were back office. And that was a, that was a real synergy. But I do think that was incidental in that, to start with, they thought they were buying PWC, somebody like PWC, and, you know, both of us know that's not we were at all.

[00:48:40]



*Yes. Yeah, that's, well that's an interesting perception isn't it. And, it's interesting that, it still worked for them actually, because, I mean some [inaud] was just about acquiring a, a kind of, veneer of UK respectability so to speak, that...*

Well [inaud] footprint. It was a footprint in the UK; it was several thousand quite, you know, quite talented and motivated people, who knew a lot about industries. I mean we knew a bucketload about the defence industry, Tom.

*Mm.*

I don't mean, I don't mean you and me, but, if you look at our business, that we came from, we knew a hell of a lot about, about the defence industry. You know, people like Steve Smith, god bless him, they knew about civil, civil government, Home Office, that sort of stuff. We knew stuff about the manufacturing space, we had got a lot of stuff going on there. We knew about the utilities industry, in SDL we were very strong at that, weren't we, on the settlement systems. So what Scicon – what EDS got, is, they got people who understood what was important about technology in the boardrooms, and the data centres had never been important in the boardrooms. Whereas, manufacturing execution systems and command control systems are important in boardrooms in defence or in, in energy or manufacturing. So that was a really good putting together of a value chain to make them relevant to different industries. But as you know, they never quite got, we never quite closed the gap on being the guys who could do IT strategy, information system strategy, and then take it through system integration and into operations. Which is why EDS ended up investing as much as they did in AT Kearney.

[00:50:34]

*Yeah, well that's an interesting, that's an interesting observation. I mean, I remember in the aftermath of the EDS acquisition, those conversations with John Bateman about consulting, as he insisted on calling consulting, not consultancy, it was consulting, and, and the key comparison that was being made was between EDS and Andersen Consulting, or Accenture as they became.*

Yes.

*EDS thought they were, that Accenture, Andersen Consulting, was stealing their lunch, and they had to be more like Andersen Consulting. And, of course eventually the acquisition of AT Kearney was kind of, the, the thing that made that a bit real, wasn't it? Because you were intimately involved in that when you were at Rolls-Royce.*

[inaud]. And I was very involved, Tom, and, it's a curious, it's quite a, a nuanced story. Because I remember full well that guys like you, you were trying to reach out beyond. If you think of the value chain in the industry, then you've got... We all know you've got McKinsey and Booz doing their stuff, and we both know what they do. And then below McKinsey and Booz, they pick up with people like PWC and Andersen's as was, who will do information system strategy that delivers the business strategy. And then from their work comes the SI work, and the kind of SI work that people like EDS would do. Now you at the time, you were working with Mike somebody or other, who was the head of global consulting in EDS.

*Mike Gleason.*

Mike Gleason. And there were a bunch of you guys doing that, and you made some acquisitions. Pendlebury came in, and Tony Roberts, and then, over in the States they had acquired the aerospace guys through Arthur D Little. And you were, you were filling out that gap between where the consulting guys stopped and where the systems integration bit started. And that was the bit that was always missing, that was the bit. And, you know, you can only grow that at a certain pace, and with a certain amount of volume. But you were building that out, and then the decision seemed to be made that, we can build that ourselves, and it'll take us however long it'll be, or we can buy AT Kearney. And so they bought AT Kearney, and the great irony is, yet again people didn't get what they thought was in the tin. So, the tin said consulting, so they go, that's it, we've got it, this time we've got it. It's not going to be directed energy weapons and electronic warfare and radar systems. It's going to be, process re-engineering, linking to business strategy. Wrong. What AT Kearney were, were operations consultants, and strategic sourcing consultants. So yet again it was not

quite what people thought the jigsaw piece was really going to be. But the big project that we did at Rolls was done with all the Arthur D Little guys.

*Oh right.*

So it was... Yeah, it was all Dan Shine and Terry Lutinger and those lads from the US. And they...

[00:54:11]

*Tell us your story, Bill, because we've been rabbiting on about industry philosophies and so on a bit. Tell us your story of what happened to you post-acquisition by EDS. Because, you kind of made a big transition there, didn't you, out of that studies...*

Yes.

*The clever stuff, into, into business.*

So I had been working, I had been doing some work, do you remember, overseas, on surveillance projects and things like that. And then, I wanted to... I knew by then, I had realised that, I really enjoyed my work, I loved, I loved the work I did on maths, I loved the work when you put me in business development, and doing that kind of stuff. I really enjoyed it. But I wanted to run a business. I wanted to actually run a business. And there's something about, maybe it's because my dad was a teacher, but I had this thing that if you're going to do something, you have to train and study it first, and qualify, and then do it. So I wanted to go to business school, I was desperate to go to business school. Julie's a wonderful human being. I said, 'Look, I want to pack my job in and go back to university.' And she said, 'OK, that's fine.' And I was very lucky, I was very lucky in that the company said, 'Well...' The company was willing to help me do it part-time, but I didn't want to do it part-time. I had already done one part-time master's, and said I really wanted to do this full-time. And then, the acquisition happened with EDS, and, and I never knew this, Tom, but, it turned out, I was on, well, you would have known it, I was on a succession plan somewhere for, you know, for some role, whatever. And one of John Bateman's metrics was not to lose people on a succession plan. And so I ended up getting offered to, they'd do

my fees, pay my fees, if I came back and worked for two years. So that's what I agreed to do.

[00:56:05]

So I went and did my MBA, and I really enjoyed that. And then, I came back, and, the job I came back into was to run aerospace for David down at defence. So, I got put in charge of a £30 million PnL, first proper PnL I'd had, and a few hundred staff, who were brilliant guys. Most of them worked for you at one time or another, all the people that you really know well and remember so fondly, people like Jeff Barton, like Pete Smith, like Dave Wrigley, you know, all those great guys. And then also, from the SDL side of the shop, you know, people like Ron Howick and Mike Puddy. So we had such a great business, we were doing studies into future missile systems, we were doing mission planning systems for Harrier and attack helicopter, and, Tornado, and this kind of stuff. You know, we were doing some infrastructure stuff on, on the aerospace side. Just lots of fascinating businesses really. And around that business, just for a year, I think, or eighteen months, and then there was a rejig. They moved all the seats on the, on the boat, and I ended up running manufacturing. So I ran manufacturing in the UK, and I probably ran that for, only another year, eighteen months, and then I got sucked into Rolls-Royce. And, there were a lot of big, a lot of big contracts being done in the UK at the time, public sector, less so in the commercial sector, and EDS had missed out on a big contract at Lucas that had gone to CSC. And we had missed out on British Aerospace as well, that had also gone to CSC. So, Rolls-Royce was an opportunity.

[00:57:50]

And I got in touch through, through some of the UK consulting guys, and we got the Arthur D Little... The Arthur D Little guys were across in the States, who had a great aerospace capability, and I got them across, and we did, effectively what we did is, we benchmarked Rolls-Royce, its core processes of product data management, concurrent engineering, lead manufacturing, supply chain, repair and overhaul, integrated product development. We benchmarked all their core processes against world class, and then monetised what it would cost to close the gap to world class process, and what the benefit stream would be, and turn that into a big spreadsheet, which effectively was the overall programme plan, for redesigning all their core processes, generating a benefit stream. We'd get a big team of AT Kearney guys, partnered with Rolls-Royce counterparts, and systems guys from EDS. Executed that programme.

AT Kearney only got paid when the benefits came through, so we had a lot of financial engineering to do around that. We primed that programme for Rolls-Royce with a very very big cheque, a really big cheque. And then what we had to do was, the outsourcing revenues from Rolls-Royce, I used those revenues to finance the overall programme with the banks, and then what we did is, spent four years doing all the process re-engineering, implementing the new IT, driving the change programme through with Rolls, and then as the benefits started coming through, pay down the bank debt [inaud] programme that we had advanced to them, pay down the AT Kearney fees, cover Rolls-Royce's costs, and then share the residual net benefit stream between Rolls-Royce and EDS. And that was the programme. It involved Allison Engines in Indianapolis. Rolls-Royce Aerospace Group in the UK was the first deal; Allison Engines was the second deal; and then the third deal was the Industrial Power Group, you know, predominantly but not exclusively up in Newcastle. So we ended up with three transactions, very similar, process re-engineering, driving new IT, driving down cost of operations, and change management. And worked that for four years.

[01:00:16]

*So that was a, a kind of risk and reward contract, a contingent [inaud].*

Yes, it truly was. It was... You know, the team from AT Kearney was probably, it was one of the biggest consulting projects I've ever seen. It was probably 200, 250 people. And the same number for Rolls-Royce, and then a similar number of IT people. And, it was just what you say, Tom, it was, lots of cost upfront, and then, only when the benefits came through the PnL could we get paid. KPMG were hired to keep everybody honest.

[01:00:54]

*Mm. And, I mean, up until that time, not many of those deals had worked, had they? You know, I mean, I, I seem to remember, when customers were offered, you know, a, a price that was value-related, you know, benefits-related, they, they balk at that, because [inaud] pay too much for it. And so it was very difficult to do those kind of deals. But it sounds like this was a first.*

[hesitates] I don't know if it was a first. It was, it was... It was unusual, in that, a few things came, a few things lined up at once. So you've got the corporation, and EDS were very very keen to prove that consulting capability could transform a business and lead to very very large downstream IT revenues. So that was a big tick for EDS. So EDS wanted, they had bought AT Kearney to front end the firm, and to have a poster child transformation programme that proved that that was a good investment, was very important. So that was a big tick. Rolls-Royce had just won the contract with Singapore Airlines, which was a massive transformational deal for Rolls-Royce, and Rolls-Royce knew it had to go through a transformation of its operations. Rolls-Royce was always really really, really advanced engineering, and its manufacturing base, you know, was, when you benchmarked it against others, then it wasn't, it wasn't necessarily as efficient as some of its competitors. So Rolls-Royce had to go through a massive transformation programme themselves to be able to be in shape to deliver the new kind of contracts that were coming out off the back of the Trent engine. So Rolls-Royce had good motivation, EDS had good motivation, and you'd got a bunch of guys inside AT Kearney that really wanted to make a massive difference to companies. And, the chance, you know, you spent enough time in consulting, Tom; the chance of getting a four-year contract with the best part of 200 people on it, you don't see many of those, do you?

[01:03:07]

*No. So... So that... What did that do for EDS then? I mean that, that put them in the same ballpark as Andersen Consulting, or Accenture, in terms of business transformation, presumably.*

Well, it did and it didn't. I mean EDS by now was sort of leading the UK really, in terms of large outsourcing deals, but mainly off the back of the public sector. And you know how successful EDS was in building those early public sector deals. So, what we had not done is, we had not really cracked the commercial sector, and it was the first, I think it was the first multibillion dollar commercial sector deal for us. I think it was.

*Yes.*

Other than General Motors, which, you know, we talked about that. So it was very important to balance the portfolio between public and private sector. And it, it established a kitemark in terms of business transformation kind of deals. But I don't, I wouldn't particularly point at other ones coming off the back of it, I really couldn't.

*Yes.*

And, and I think it's back to this... You know, it's not about, it isn't about, corporate capabilities. It's about groups of people. And by pure luck, and the fact that Mike Gleason [inaud] invested in the Arthur D Little guys, we had a cohort of 20 consultants who knew as much about world class process in the aerospace industry as anyone on the planet. And that made a big difference to the executives at Rolls-Royce. So what the execs at Rolls-Royce bought was the expertise of those individuals, backed up by the execution capability and finances of EDS. And I still think to this day that, AT Kearney per se, which I think is a great firm, and now it's very different to what it was then. Now it does have a lot of capability in systems, but back then it had very little capability in systems, and it was still this, you know, we've not quite cracked the value chain to take us up to where McKinsey stop.

[01:05:22]

*Mm. Where is AT Kearney now? They...*

Well what was very interesting...

*...[inaud].*

They're an independent firm again. When Michael Jordon came to EDS, took over from Dick Brown, what he found with AT Kearney is... You know, AT Kearney is a classical partnership, and you know how partnerships work, and, the guys, they work like crazy as junior people, they come up in the partnership, and then they share in the rewards at the top of the partnership. But by selling AT Kearney to a plc, or to an incorporated company, it sort of, it really damaged the partner model. And so the compensation didn't work as well as it had done previously. And also, it's a... I mean I saw this in a, in other places, in Balfour Beatty, where, if you own a certain

kind of consultancy, then you're actually debarred from doing some of the other kind of work, and people want to disaggregate their supply chains in that way. And so sometimes, you know, AT Kearney couldn't bid for something because EDS were doing the systems work, or vice versa. And so in the end, in the end Michael Jordon gave the Kearney guys the opportunity to buy the company back.

[01:06:38]

Yes. So...

So that was, was Rolls-Royce.

*Yes. So Rolls-Royce, you, you were looking after Rolls-Royce till about '99, and then...*

Yup.

*...you [inaud] to kind of, broaden your, your activities into, you know, the, the headquarters at Dallas and looking at the shape of EDS going forwards, and, evermore strategic.*

Well, I went to Dallas. I had done four years... If you remember how those big deals worked, the early parts of the deal are, it's all about investing, to do the transformation work, and you put a load of unbilled revenue on the balance sheet. That's the easy part. The hard part is unwinding the unbilled revenue. So when you've done the transformation, [inaud] unbilled revenue. And I can remember one of our colleagues from Texas coming to see me and saying, you know, 'I'm looking at all the big deals in the world, [inaud] unbilled revenue on the balance sheet; I just want to make sure it's safe.' And I said, 'Well I've got good news and bad news.' He said, 'Well what's that?' I said, 'The good news is, do not worry about that unbilled revenue. We've got a plan for delivering the productivity, and we'll show you how we're going to unwind that revenue.' He said, 'What's the bad news?' I said, 'The bad is, that's not where the risk is.' [laughs] The risk is in the transformation of Rolls-Royce, and all the AT Kearney fees, and all the pump priming money that we



have injected into the programme, that was the, that was what kept me up at night. So anyway. So I did four years, and it was OK in the end

[01:08:19]

And then... I, I didn't know anything about this stuff in Dallas, and I got a phone call from Jeff Heller about going across and joining this project. And that was it really. I, my number two at Rolls, Dave Brown, was more than ready to take over from me. And I took a, a period off, I went across and joined a bunch of people in Dallas, another six people, and effectively what we had done for Rolls-Royce, we did for EDS really. So, design a change programme for EDS to transform its footprint globally and change, change its operating model. And I spent probably about six, nine months in Dallas working on that. And then came back to Europe to implement for Europe, with David Thorpe.

[01:09:13]

*So you were then running Europe?*

I wasn't. I was the chief, I was the head of delivery for Europe, or whatever it was, the COO for Europe. And David was running Europe. And then... And John Bateman was sort of, the chairman figure who sort of liaised with Texas. But I did a lot of that work with David. And then, then there was a change, and a guy called Mushtama Gasamian came in from CSC. So David went on to do a corporate role, and Mushtama came in. And then, I spent a year implementing that change programme across Europe, and, delivering a lot of productivity improvement. And then, at the back end of that year, there was another change, Mushtama left, and John Meyer, who, an old-time EDSer from financial services came across to do effectively what David had been doing. And, I worked... And then... That's right Tom. I had implemented that change programme across the delivery organisation in Europe, and then, we... The UK was run as two separate businesses, one public sector and one the rest, with David and Alan Stevens running each of them. And, that was suboptimal and needed to needed to come back together, and Alan was, Alan was retiring, and David was moving on, and so, I came out of being head of delivery for Europe, and just became CEO of UK and put the UK back together.

[01:10:40]

*Yup. But then you moved, you moved up to EMEA at some...*

Yes. After a couple of years, so I did a couple of years there, you know, we further expanded the relationship with various people, so, we were doing a lot of, we were teeing a lot of defence work them, and DWP was in its massive growth, growth phase, did a lot of growth in justice and that sort of area. And then... [pause] The company got into difficulties over an MCI in Dallas, and , [inaud] contract, the Navy Marine Corps Intranet. So Dick Brown had come in by now, and Dick Brown was running the firm, and we signed a Navy Marine Corps Intranet deal in Dallas, but got into serious commercial difficulties. Just massive cash flow problems. And it was all about, it was all about... Oh, the contract was the kind of contract that would only get paid when stuff was delivered, but if it was delayed for any reason, any reason, then you still didn't get paid. And so it became a very difficult contract, and took a lot of investment, a lot of hard work, took years to turn it around. But it became very successful in the end. But the company got into very great difficulty, debt rating went down, this sort of stuff. And, so Les Alberthal... No Les had gone. Dick Brown was in then. And, then Dick left, and I was put in charge of Europe, Middle East and Africa then. We had a new guy come in, Michael Jordan, who was a very very experienced man who had worked at CBS and, turned Westinghouse into CBS, and, and worked at Frito-Lay for a long long time, ex-McKinsey guy. And Michael steadied the ship, sorted out the NMCI situation in America, and got the company back on an even keel. And by then, [inaud] Europe, you know, we're doing stuff over there, we had a lot of productivity stuff to improve in, on the Continent. We had a lot of, a lot of large transactions to do in northern Europe. And it was just, that was the, that was what we were doing then.

[01:12:55]

And then, in the UK, you know, in the UK we had, we got into difficulties on Inland Revenue on a delivery project there for tax credits, which was a huge contract, massive, massive, challenging contract. And the fact is, what we did is, we gave up some of our testing window to the client. The client had got into difficulty over a National Insurance data corruption, and the client needed our testing, our testing environment, to correct this problem with, with National Insurance numbers. So we gave away six weeks of testing, and, it was a calculated decision. We took it in conjunction with the client, and it went wrong. And we needed that testing window,

and the system was unstable for the first six weeks of its operation, which was very difficult, a very difficult situation. But we sort of got through that. And then, that contract went to FMAS , Inland Revenue , we lost that one. And then, we were very much focused on expanding our defence business, and the defence community were looking at the need for network-centric warfare capability in Afghanistan and Iraq. And, I think it was three or four years bidding the DII contract.

[01:14:18]

*So this is around, when are we talking now? This is, in the period...*

About 2004 or 5, round then.

*Yes. So you kind of, you've moved in the space of, five years or so, five or six years, from kind of being hands-on, very focused on, on the Rolls-Royce account, to a huge empire of, you know, lots of people, lots of contracts, lots of countries, and... I mean how do you make that transition from, you know, that tight focus on some operational objectives and single account, to a much more diffuse strategic diverse role?*

Well, the precise dates are, I left Rolls-Royce in the middle of, the first, end of first quarter '99. Out to Dallas until the year 2000. From 2000 to 2001, implementing that project in Europe. 2001 to 2003, CEO of the UK. And then 2003, became chair of EMEA through to when [inaud]. And that, that transition, I think all of it, Tom, to me it's always been about, you know, I've got this little framework about mission objective strategy and tactics, so, and it's, it's kind of the same if you're running a small business or a big one, but you just decompose it in terms of, you know, if you secure these objectives, then you'll achieve a mission, and then for each of those objectives you need a strategy, and then for each of those strategies, that decomposes into a set of tactics. And they all become executable plans with deliverables and timescales and accountabilities. And then, it's, the focus is on the leading indicators for delivering those projects. And if that works, then it should roll up to achieve a mission.

*Yes.*

And, you know, I still think, it's all about, just getting the right people involved, the right people around you. That's, that's by far, that's far more important than any sort of intellectual [inaud] challenges there.

*Interesting, it's a scalable model.*

I think so. Yes.

[01:16:35]

*So what, what happened to bring HP into the picture then?*

Well that's interesting. So, in, in '98, something like that, EDS was... EDS was having a hard time at GM. You know, GM had really completed most of that work. Very very difficult to replace the margins on that business. And it was hard to hold the growth rates in the Americas for EDS. We, we had grown Europe by, something like, seven or eight per cent compound on revenue, double digits on profit for seven or eight years, and seventeen per cent on sales. So, you know, our sales were, were performing very well, but it was difficult. The whole situation was difficult. And we knew that HP had, HP were the biggest technology firm on the planet, but they didn't have a very large or successful service business. And so, Ron Rittenmeyer, who was the CEO, or chairman, then, approached Mark Hurd and said, 'Why don't we put our two service businesses together. We'll be your service partner.' And, we had sold very little HP kit into EDS, and we'd certainly not sold into [inaud] HP's clients. So there was a, there was a natural synergy [inaud] market there. And, you know, two teams put together, run a ruler over the business, and Mark Hurd said, 'That's a really good idea, but I think it should be the other way round, we should buy EDS.' And, that was OK. And so, a transaction was put in place, and it closed about two weeks before Lehman Brothers went wrong. So the timing of it was quite good in that respect. And then, I found myself, there were, I think there were ten of us on the exec committee of EDS, and, four of us stayed on, the rest left. Four of stayed on, to integrate the business. And then HP had about five billion of strategic services called HP Enterprise. We had got about eight billion in Europe. So, I had four billion from HP and eight billion from EDS put together. And we had to, you know, it was a very difficult time, with a lot of synergies to deliver from, integration, but also, you're now

into the economic crisis. And so, a lot of the applications work switches off. So we, we, I think it was about 11,000 people had to leave the business during that first eighteen months of integration. So it was a very challenging time. But culturally, it was fascinating. I mean, you know, just fascinating. I remember one of the Kearney guys taught me a long long time ago, in a very non-gender-specific way, that when you walk into any business, a really good question is, what do big guys do here? What is it that big guys do? What's the destination job that anybody joining wants to get into? And EDS, it was an account manager. The job to have was to be an account manager. So in a sense it was as far as you could possibly get from headquarters. It was out in the field. It was actually like the military. It's like the best job in the army is a colonel, because, all your guys, you're in the field, you're in charge of everything. Get on and do it. Go back to the centre, it's much more matrixed. Now, in HP, in HP the destination job was about products. So HP was about products and intellectual property. EDS was about clients. And the difference manifested itself just in account management. So in account management, the EDS guys were all P&L managers, so they were general managers, and because they were general managers, they had responsibility and authority for people as well as the business. So the clients wanted to talk to them because they were in charge of people, so they can mobilise resources and get things done. The account managers in HP tended to be just, not having P&L, they had sales targets, so they have no resources, so the clients don't want to talk to them, because they've got no resources. And it was very interesting, seeing the difference, and trying to explain to Mark Hurd why having a P&L at the account level makes a difference. Because, it means the clients will talk to you.

[01:21:07]

*So, you... So, you completed the integration, and then, and then left to do other things.*

Well, we, we put it together, myself and three other guys had signed up for two years. We said we would stay two years to integrate it, and then there was a, you know, there was a financial transaction at the end of that. And we got towards that. But we had kind of done all the stuff we needed to do. And it was, it made sense. So, most of us left then. I think three, three of the four of us left then, and then Joe [inaud] stayed on a little while longer and then he left. But, you know, by then, we had, we had done

some really interesting things with HP. We had a very big push into, you know, leveraging HP kit and IPR into the EDS base. We did some very large transactions. You know, we did deals with Shell, we took over the mid-range at Shell worldwide. Took over all Aviva's mainframe capability. We had done some very large transactions with Vodafone. We did a huge deal with, I can't remember, a French company. [pause] No, it'll come back to me. So we did a lot of large deals. But we had also stood up DII, you know, DII took a lot of effort, a lot of effort. Very interesting contract. And, I had the opportunity to leave then. And I never thought I would, but just literally as I turned my 50<sup>th</sup> birthday, I had the chance to check out and complete my transaction, and then go and do something else. So I did.

[01:22:43]

*Right. Because you fancied doing something else?*

Yeah. I thought about staying on to HP, and there was a possibility of going to run Asia pipe . And that would have been interesting, I would have quite liked the adventure of, based in Singapore, for a while. But, you know, I just thought it was time, and so, I went and did some different stuff.

*So you've done quite a few different things since then.*

Yes.

*And, and again, in different environments I would guess, and different, different roles in, yeah, in the sense of being very non-executive, or very chairman-like.*

Yeah. It sort of... What I found, Tom, is, when you first... Say , the big, the biggest decision to make is, are you going to do one thing, and a couple of others, you know, one big full-time role, or are you going to do a lot of different stuff. And for a while, you kind of, put a foot in both camps. And, there was a particular role that I was, I knew I was going to be offered, a full-time role, and I went talking to Julie, and said, 'Listen, I'm going to get offered this job. Are we going to do this?' And she said, 'Well, what does it mean for travel? Are you still going to be in America all the time?' I said, 'There'll be a lot of American travel, and a lot of Asian travel.' And

she said, 'Well if you want to do it, that's fine, but it seems like it's,' the beautiful phase, Tom, was, 'It seems like a curious thing to do, if you don't have to.' And, what it taught me, what I learnt from it, is, when I really thought about it, there's a huge difference between wanting to have done a job, and wanting to do it.

*Yes.*

And I remember, you know, when we worked together, all those different jobs I did, I really wanted to do them. And, in a way, I never went looking for them, they just came, they just came along. But I really wanted to do them. And what I realised, in this full-time role that I was going to be offered, I kind of knew it made sense for me to do it. And I thought, that would be a good thing to have done, but I didn't really want to do it. And so I started doing a lot of different things. I went back to two of my old universities, I went on the board at a business school at Leeds, and I chaired the, stood up and chaired the board at Cranfield, the business school there. And I loved that, I did a long time there. I got... You know, a long time. I must have done six or seven years at Cranfield, and about four years at Leeds. And just did loads of work with the students there, and the faculty, and go in the school, and looking at strategy and that sort of stuff. And then, I also got involved with politics when Ed Miliband was running the Labour Party. And I did a lot of work on defence procurement, and on business policy to help grow small businesses, that sort of work. And on skills and that sort of thing. So I did a lot of work there. Stopped, I stopped working there when Jeremy Corbyn got in charge, that's not my sort of, kind of politics.

*Right, you were recruited by Ed Miliband, were you?*

I was recruited by Michael Dugher, who had actually worked for EDS. He worked in government affairs, and he had gone in as Gordon Brown's chief spokesman. And then he was, he was the MP for Barnsley, and he was, he was shadow defence procurement. And he asked me to go in with a couple of guys that I knew, Tony Rawson, some others, and just look at defence procurement, and look at what Labour policy could be around defence procurement. So that was the first study I did. And then Ed Miliband asked me to run a small business taskforce over a couple of years,

quite a long study, looking at economic policy, that sort of stuff. And then also the schools agenda. And then as it got near to the Election, I got involved with Charlie Falconer on the transition to government work, and just the plans for the first six months, that sort of stuff. So I did a lot of different stuff, stuff for a Home Office team, for Yvette Cooper as well.

[01:26:44]

*I'm sure we could spend an hour talking about defence procurement, but, I'd just like to ask about two more unusual things that you've got in your portfolio career. One is, you, you were heavily involved in a charity, the...*

Yes.

*And, was that, was that motivated again by your father's experience in the services, or...?*

I would say it's just that career anchor for defence. So, I've ended up working in lots of industries, and when I was running EDS in Europe, and then HP, it was, it was obviously multi-sector, but my career anchor has always been defence, right back from starting at Marconi. And, I kind of, you know, it is a career anchor. So, the most significant project that I ever got involved in, single one, was probably, probably DII, and maybe Rolls-Royce, but DII was a wonderful opportunity to make such a difference, and you know, to be out in Iraq, and understanding how the systems were being used, and then guys out in Afghanistan as well. And it's just this career anchor for defence. So, I was at a stage in my career, and, I had stopped doing politics, because, because of what we talked about, and I just wanted to find another outlet that wasn't about making money and doing stuff like that. And I contacted three of our old clients, three ex-four-star officers, and said I was very interested in getting involved if I could. And, there were three different opportunities. The Royal Navy and Royal Marines had always had an admiral as a chairman, and they wanted to, you know, they wanted to be more open about the procurement process – sorry, the appointment process. And so I was asked to apply for that and I did. And then, I chaired that for six years, and that was really good, I really enjoyed the people that I worked with there. We, you know, we had some fantastic people on the board, we



had got a lot of new people to join us. We sort of worked on our relationship with the Navy and the Royal Marines, raised a lot of money, spent a lot of money, lobbied the Government, all the usual stuff, Tom. And it was a wonderful, wonderful journey, really enjoyed working with them.

*Yes, it sounds like a good experience.*

[01:29:00]

It was brilliant, absolutely brilliant, yeah. And did lots of board work. So, the first board I went on was with Martin Read.

*Oh, right, yes.*

Yeah. I went on the board of DFS with Martin.

*Yes.*

And that was about readying that for an IPO, which never happened in the end. So I, I think, I think we worked together for about two years, on BFS/DFS. And at the same time I went on the board with, I mean this is a real sort of, some real names out of the industry. So Geoff Unwin was chairing Xchanging.

*Oh yes. Yes.*

And we had a lot of fun at Xchanging. So, [inaud] board for Geoff. I chaired remuneration for him, at Xchanging. And we were, probably, again, we must have worked together five or six years. And, in the end, Ken stood down as chief exec, Ken retired, and we knew we were, we were going to do a transaction around Xchanging. And I hired Craig Wilson from EDS to come in as CEO, and we did a deal with CSC in the end. Which kind of put Craig into CSC which then merged with EDS – sorry, with HP Enterprise to create DXC. So Craig had been in EDS, gone into HP, came to Xchanging, into CSC, [laughs] and then back into DXC. But, you know, everybody knew what was going on there, and it was all, all laid out and very sensible. So that was Xchanging.

[01:30:25]

And then I went on a very exciting board called GFI, which is not the French service business that we knew.

*Is that the same GFI that was part of the SD-Scicon?*

No. No it's not. It's completely different.

*Jacques Torjman.*

Not Jacques Torjman, no.

*No.*

No, this is a software product business.

*Yeah, I was going to going to ask about that.*

No no no. This sold a product called Teamdoer , a very small, very small, small products, products business, but incredibly successful firm. And I must have worked there for five, five years, and then we sold that in three different chunks to three different private equity firms. And then, I was on the board of Balfour Beatty, but only for a brief period, about, fifteen months, something like that. And then, I got approached to go on the board of a bank, the Co-op Bank. They had sort of, they had written off some very large investments in IT, and they wanted somebody on the board who had done big systems work. So, I joined the board of the bank. And they were looking to merge with the TSB at the time, but that, there was a big hole in the balance sheet of the bank, and, the bank's balance sheet collapsed, and the debt had to get turned into equity. So the TSB deal was off anyway. The Co-op group... I'm in by now, I mean I'm sort of, two months, a month in. So, the bank's then owned by hedge funds in the US. Then a horrible scandal emerged about the previous chairman, which was very unpleasant. So it was a very, very difficult time. And the thing that stood out was that, you know, the thousands of employees were really decent people, and just deserved good leadership. And, it's taken a very long time, it's taken nine

years, but, you know, the bank's very strong now. It's just been, it's been rated as the most sustainable bank in Europe. It's very much back into profits, it's doing some great work around its values and ethics. And the IT's almost fixed. One last big project [inaud], and after there, I'm finished.

[01:32:33]

*So the, the other project I wanted to ask you about was Hopton Hall.*

Yes. Yeah.

*That's something different.*

Yes. I mean, Julie bought Hopton just, just after I retired. And, it's just a big old house in Derbyshire. It's got about six cottages in its grounds, and it's a, just an historic estate really. And then we have some really nice people who live here with us, and run the holiday business, and it's a family home.

*Right. So you, the holiday business is kind of outsourced, is it?*

[hesitates] I don't, I'm not very useful as far it's concerned. Julie, Julie certainly keeps a close eye on things there. But we're actually trying to move on. We've been here twelve years now, and, all our kids are gravitating to south Manchester, and we look at every bedroom we've got and we can't find our grandkids in any of them. So, so we're trying to sell Hopton Hall, which hopefully we will do. And then, we'll buy a bolthole over in Manchester near the children, and we'll buy another place in Derbyshire.

[01:33:45]

*So I've just got a couple of broader questions, if you've got another few minutes.*

Yes, I'm fine Tom. I'm good till five o'clock. I mean, what we should have said is... So after the bank, then I got involved, I chaired Clarksons for three years, a shipbroking company. I went on the board and chaired Spirent, which is a network, a large networking company. And then, more recently, I've gone on the board of a

cyber firm called FireEye, on their advisory board. FireEye, which is Mandiant now, been sold to Google, in cybersecurity. And then, the latest one is a little tiny firm called Jungle Creations, that does online publishing.

*Mm. Cybersecurity is, is a huge thing now isn't it.*

It really is actually. Somebody was telling me that if you look at the proceeds of crime, if you look at the proceeds of cybercrime, then if that was a country, its GDP would put it, I can't remember, Tom, whether it's twelve or seventh in the world.

*Yes.*

It's a massive issue. And it's not just money. I mean the whole undermining of democratic process.

*Yes.*

It's a massive issue.

*Yes. I mean... And it's a big opportunity for business isn't it, you know, I mean, there are some big valuations being attached to companies in that space.*

There are. There are. Yes. Yeah, there's a lot of renewable revenues in there, and people, people, quite rightly, they want to, they want to make sure they're as protected as they can be.

*Yeah. Do you think it's well understood in boardrooms?*

No. No I don't. I think there's a real issue in that, it's very interesting that, if you look at finance, then we're all used to, the auditors come in, and they audit the business, and then, we all, we thank the finance director, and the finance director leaves the room, and then the auditor tells us what he or she thinks. But that doesn't happen in, in cyber. On most boards, the CIO, or the CSO, will commission an audit by an external firm, who work for him or her, and they come in, and tell you what

they've found, and they tell you what a great job he's doing, then they go away again. And the board doesn't have a really intimate relationship with an auditor around cyber. And I think that's bad. I also think there's a, there's a dialogue... There's not a really good dialogue between lots of boards and the chief information and security officer, in that, they [inaud] position, so, instead of, instead of... The CSO should come in, and say, 'OK, you are protected, at the moment, to this level. If you want to be protected beyond that, then it's going to cost this much money. And however high you want to be protected, it's going to cost you more money.' So it's all a trade-off of what the risk appetite is of the board, and how much you want to give the CSO to address. But often, I will find that boards say, 'No, what we want... We don't want to take any risks, so we want the cyber...' 'Well, you know, that means you've got to be prepared to spend as much on security as GCHQ.' And that's beyond many many firms. So there's just not a good dialogue. And the other thing, Tom... So there's that dialogue thing. But the other thing is, many organisations test their cyber capability twice a year, and then get on with life as normal. Which is like having a fire engine drive past your office to see if it's on fire twice a year, and if it's not on fire, then you forget about it. So the idea of a smoke alarm, the idea of continually, right, continually assessing your exposure against an evolving threat, that's what's really needed, and not many firms do that.

[01:37:36]

*Yes. Yeah. So, you, you were knighted in 2020.*

Yes.

*Well what does that mean to you?*

Oh it was very nice actually. It was, it was a nice surprise. It was the end of the year, in 2019, I was on holidays overseas. And I got a very strange phone call from one of my [inaud] in Spirent, said, 'The Cabinet Office are trying to get hold of you.' And I thought, I don't know what this is about. And I got through to them. And they had written to me, but the letter had gone adrift, and it was, 'Are you going to accept this knighthood or not?' So it was a real surprise. And that...

*It was a surprise, was it?*

Yes. Yeah. Yeah, I knew some guys were interested in proposing me for something or other, but, it was a surprise, yeah. And it was very nice, it was nice for the family, you know, kids were really impressed. My mum and dad would have been very pleased. Not a lot of knighthoods from River Street.

[01:38:31]

*What advice would you give to somebody these days in your position in, going back all those years to, I don't know, the Seventies, you know, doing your A Levels, and looking at what you're going to do next, and, is IT, is it something completely different? Is it business? You know, what, what's the, the life advice for a young person these days?*

Well, I used to say to people, for a long time, I think a lot of us said, you would say this, find something you're passionate about, and pursue that. And then I realised, that's actually nonsense. If you look at most successful people, really successful and happy people, then they're good at things that nobody could possibly think was going to be a passion. So, you know, they might be good at international tax law, or they might be good at some very very esoteric kind of industrial process, but what I, what I actually find, Tom, is that, is that people are well-rewarded and very happy, and get recognised, if they focus on things they're good at. So the most important thing is to find something you're good at. And to be good at something, to be good at something, you know, some people say there's a rule of thumb that it takes ten years to be good at something, whether it's playing cricket or whatever it is, but it takes ten years. And, there's a real thing in life about, am I good at because I love it, or do I love it because I'm good at it? And if you get good at something, you will tend to love it. So, so the most important thing is about finding something you're good at, and, you have to stick at it for ten years. And that takes resilience. So, of all the attributes that I look for when I interview people, I think resilience is right up there, is right up. What do you do when things go wrong? And, you know, do you sort of stop, or do you just dust yourself down and carry on? So my advice to young people is, do things that will help you build resilience, and be very open-minded and find something you're good at. And when you've found it, be willing to dedicate the ten

years. Because after ten years, you'll find that, you do love it, because you're good at it, and because you're good at it, you'll get well rewarded and be very happy.

[01:41:01]

*And two last questions, if I may. One is, IT, where's IT going? You know, people talk about, the threat from artificial intelligence, or the benefits of artificial intelligence. What do you say about that?*

Well, I say that, this is a conversation we first had when we met in 1987. [laughs] So not a lot has changed really Tom. People have been talking about that literally since we met and for a little bit, time before then. I don't see any threat at all. I think there's, I think, artificial intelligence is just like any, any device, it can be used to do good or bad with, and it's all about what the governance is around the people who are deployed in it. So I'm not worried about that at all. In terms of its ability to destroy jobs and take livelihoods away, if we're worried about that, let's go and storm JCB now and shut down JCB and, all go back to digging ditches. I think that jobs our grandchildren will do haven't even been thought of yet. So, I just know that we live in a world that there's infinite demand, an infinite need for all kinds of services and goods, and, mankind will have all the creativity to fill those niches as its capacity becomes available to do that.

[01:42:25]

*Another question we get a lot of different answers to in these interview is, that the UK as a place to do business, or more specifically the UK as a place to start and grow a business, some people say, we're terrible at it in the UK; other people point to the number of unicorns that we grow, and, you know, the, the success that we have in start-ups. I mean, you see a whole load of this presumably. What's your impression of that?*

My impression is, I think our universities, pound for pound, are probably still the best in the world, in terms of the innovation that comes out of there, and the number of Nobel Laureates and things like that. So I think our universities are really good. I think we can do more to harvest the cooperation between industry and the universities. I think we've got a dire skills problem, in terms of far too, far too

difficult to fill really high value jobs. I mean, as we sit here today, we're all worried about GDP, and we're all worried about the debt, public sector debt. And we all know that the only way to fix our situation is to create high value jobs. But to create high value jobs, you know, the Government's job is to create a climate in which it's easy for businesses to launch and grow, but we have to have skilled people. And I'm really concerned, I'm really concerned, at the lack of ambition in a lot of young people who just find it too hard to stay in education. You know, the, the ticking timebomb in our education system is white working-class boys. They're the most under-represented group at university. And they're just, they're forgotten about. You know, they're not a very sexy subject to talk about with politicians. There are all kinds of interventions to help all kinds of young people. White working-class boys are just slipping through the net. So I think, if we don't, if we don't get a grip on our skills, and our, to be really frank with you Tom, our parenting, and keeping kids in education, and keeping them motivated, so we get a skilled workforce, we've got a government that needs to do a lot more to make access to finance good. When I was working for Miliband on small businesses, 80 per cent of small businesses were still financing their business through credit cards, paying 25 per cent APR. So the creation of a small business bank, I think would make a massive difference, just a huge difference. And I think so much of our bureaucracy is there to just persuade people not to do things, not to start businesses. So, I look at my own situation, the tiny little business that we run at Hopton, and I had to set up a pension fund. Now, the fact is, most administrators want more money to administer it than we actually put into the pension fund. But that's... And I don't say that was the Government ; a Labour government foisted that on to industry. And so there's just, there's too little understanding of the absolute criticality of the start-up small businesses, in that 80 per cent of new jobs will come from them, and there's just lack of understanding about the importance of small business, there really is.

[01:45:42]

*And what do you think we should do about that? I mean, is anybody addressing it, or, is there something we should...*

People are talking about it. But I think we do need... In America there's an SBA, the Small Business Administration, and effectively there's somebody who sits at the



prime minister's table, or the president's table, and is *the* representative just for small business. So every time the Treasury says it's going to do something that's going to filter out through HMRC, then there's someone at the table looking through a lens of, is this going to make Britain a better or worse place for starting and growing a small business? So I think we need an SBA, you know, we absolutely should recreate the SBA in the United States, and then, you know, beyond that, we need a bank, you know, we need some kind of business bank that will make access to finance for small businesses much, much easier than it is today. I went and studied at the Sparkassen banks in Germany, and very very different. So, if you ran the Sparkassen bank for Farnborough, then you can only lend in Farnborough. That's all you are there for. And your lending is franchised around the rest of Germany, so, you're insured against underperformance. So, this idea of local banking for small businesses is a really powerful thing. And, you know, we just don't do it.

*Well that's a good proposal on which to finish I think.*

OK Tom.

*[inaud] we need to address. So, thanks ever so much Bill, it's been...*

Not at all.

*...[inaud].*

If there's anything we've missed, or that you want to go back over, Tom, just give us a shout.

*You've very kind. Thank you very much.*

Well it's lovely to see you Tom.

OK.

[End of Interview]

