



# HL INFLUENCERS: DIGITAL TRANSFORMATION TRANSCRIPT MICHAEL TOBIN, OBE

Leo von Gerlach	Hello everybody and welcome to another edition of <i>The Influencers</i> , our podcast conversations on digital transformation and law. I'm Leo von Gerlach, and with me today is Michael Tobin. Michael is what everybody really wants to be. Michael is an extremely successful entrepreneur, having brought data centers into existence in the UK and parts in Europe, and in addition, he's an acclaimed author with books mainly directed at the younger generation of those who want to make it in tech. And he's also a great philanthropist with having just achieved great feats like, for example, marching to the South Pole or doing 40 marathons in 40 days. So he achieved quite a lot in his life, with that I'm very, very happy to have you, Michael.
Michael Tobin	Thank you very much. Really delighted to be here Leo.
Leo von Gerlach	Michael, let's just dive in right away with your remarkable journey. I mean, you have started out as setting up data centers and just developed to a very, very advanced degree and you have just gone through all those stages that a typical entrepreneur just takes on their journey. Perhaps you share with us, one or several of those moments where you say, well, that is kind of quintessential. That is pivotal that shaped your understanding and your being as an entrepreneur.
Michael Tobin	I guess one thing I would say is that people underestimate fortune, chance, luck in the journey and everyone looks for the kind of secret sauce that that makes success. And I would say, I think one has to really appreciate that being often times in the right place at the right time, having the right conversations, are those kind of pivotal moments more often than not. I got into data centers as in my first job I didn't do my due diligence properly on the business. And it was about to go bankrupt. And through the fact of getting in there and realizing that I was able then to become CEO quite quickly and turn the business around. So taking advantage of that opportunity, but also being in every conversation, and saying yes to more things that you say no to -- I can do that and I'm willing to give that a shot.

	<p>And a lot of people come into a conversation with the first thing in their mind is the problem. I find that successful entrepreneurs don't approach things with the problem. They approach it with "Okay, let's see if I can get this done." But one little nugget of inspiration I did get when I was 16. I left school at 16 and got an apprenticeship at an electronics robotics automation company. Back in those days, there was no internet, no nothing, no mobile phones. And I was sitting on a bench in Bond Street tube station waiting for the train. I gently – gingerly opened up the envelope with the letter of my application response in it and I looked at it, and of course it said I've got my apprenticeship and the guy sitting next to me was a very, very elderly man at the time. I'm sure he's long passed. I didn't know him, but he could see the beaming smile on my face and he said "Son, always go the extra mile because there's less traffic there," and that's the way it stayed in my mind because every time things get hard that's exactly what you want, because you're differentiating by dealing with that. It's differentiating you from everyone else. They shouldn't look for the easy routes. The hard routes are what differentiates you from people that aren't willing to give their best shot.</p>
<p>Leo von Gerlach</p>	<p>I really like that. It really resonates with me this kind of proactive, engaging approach, this bring yourself all in, that can make a very, very big difference in particular, if you are then also a talented person like you. Great, Michael, perhaps we just move on already to a little bit of more of substantive topics and speak about data centers. Well, data centers are now again on everybody's mind because of this intensive need for all those AI applications. But with that intensive need for AI applications, there's also that intensive need for energy and then we now need ever more of this, as we speak about this hyper scaled data centers. So how do you drive that data center infrastructure in a time like this?</p>
<p>Michael Tobin</p>	<p>Yeah, it's really one of the biggest challenges of our collective world at the moment. We all know that AI is the sort of thing that once it's invented, it's not going to uninvent itself, right? It can't disappear. It's only going to get ever more developed and ever more advanced. I think that the key there is that you have data centers that used to be built back in 2000s, early 2000s. They were built at around about 250 watts per square meter power density, right? Now they're being built at 132,000 watts per square meter. So that's the kind of the evolution of the amount of power that's needed in a physical building. And we're seeing that historically data centers, a big data center was 10 megawatts of power. Now, a big data center is a gigawatt of power. And these are cities, you know, these are small, small cities, large towns worth of power in one building, which generates tremendous heat but also just physically getting the power to them. And of course, it's not the building itself that's consuming it. The service inside are what's consuming it and that's basically you and I doing things on our phones, on the internet, on everything else. And so every time we do</p>

	<p>a Google search now -- because genius is underneath Google search -- automatically every time you search on "What should I feed my cat tomorrow?" or whatever, it's consuming 17 times the power that it did five years ago or three years ago because of the richness in the answer. But whether you like it or not, you're consuming 17 times the power for every search. So these are the kind of data metrics that we don't necessarily realize are happening around us as AI is becoming more pervasive in our lives.</p>
<p>Leo von Gerlach</p>	<p>And now that cat is already out-of-the-box with ever more people using ever more powerful AI just being ever more energy hungry. And energy hunger then leads to the question of sustainability and how we manage all this. So, how is the industry or how our path of industry approaching this balancing act between driving our performance on the one side, but just keeping an eye on sustainability.</p>
<p>Michael Tobin</p>	<p>Yeah, I think this is a real challenge because for the foreseeable future, data centers are going to consume ever more power. And if you look at just a data center in the United States, if you look at the amount of consumption of power for every country, you'd have the U.S. and India. But the U.S. data centers would be the 6th largest country of power consumption on its own. So when we think about the sheer size, what do you do? A lot of work is being done on how to minimize the waste energy. So for every kilowatt that's used by the servers, you need to put more than that kilowatt into the system for the cooling and everything else. So being very efficient for cooling is super important. But then using the byproducts. So there's a lot of companies now that are developing solutions that takes the excess heat from a building and heats the local community. For example, free of charge or heat the local hot water systems of the community, so it's even in the summer. You know, you can use that power, to heat hot water, to raise the level of the minimum temperature so that the power that they consume is minimized, to get the same output. So again, it's unlikely that data centers themselves are going to use less power. You can create value out of the byproduct.</p>
<p>Leo von Gerlach</p>	<p>Let's stay with this interesting topic for a second. So just that translates also into the more specific question of carbon footprint and what ways there are to minimize that. And one way that you said using byproducts another way is perhaps using other sources of energy or other trade-offs. Perhaps there is just additional thinking on that point.</p>
<p>Michael Tobin</p>	<p>Yes - at the moment, one of the biggest hopes that the industry has is that the development of AI itself will help, because historically the industry has been quite reactive to this, right? How do we marginally improve efficiency whereas the growth of demand at the moment is obliterating any minimal upsides that the industry comes up with in doing the same stuff a little bit better than it did before. So what we're really seeing now is when we move to, you know, many nuclear</p>

	<p>platforms and we say you know, we just cannot get the amount of grid power. So we're going to run off super efficient green nuclear energy and small pods, but that in itself you know obviously has challenges. I know Google and Microsoft are doing that experiments on it. But I think it's AI itself that's going to come up with a lot of the solutions for this because we're saying that it's super intelligent, we're saying that, you know, it's coming up with fantastic business models for everything. Well, of course it's going to come up with business models for the data centers that it lives in. I think this is one of the key sort of hopes and aspirations of the industry – is that as AI starts to develop its own AI, the rate of development will be faster than it ever was when humans were doing it because by definition AI is infinitely more complex than the ability to program is going to be faster. So it will come up with the solutions we hope to counteract the kind of consumption it's bringing.</p>
<p>Leo von Gerlach</p>	<p>Well, this is actually a cool idea that you also need to look at the overall equation and see that the overall efficiency gains are such that just we can offset a little bit of the negative impacts we have discussed before and perhaps that's a nice inroad to yet a slightly different question. I mentioned in the beginning that you really have a strong drive for positive social impact and perhaps is there a connection between your deep drive for social impact on the one side and what you do as an entrepreneur on data centers on the other side?</p>
<p>Michael Tobin</p>	<p>Yeah, I guess ultimately everything is connected. If I aspire to help in any way from a community point of view, it ultimately comes back. And so giving people opportunity will end up with perhaps more innovation that will help solve some these problems. My wife and I like to sort of focus on the education, empowerment, and welfare of young people. And in so doing, you're driving the next generation of innovation and entrepreneurship to come fix some of the challenges that perhaps we've caused. We're aware we're the custodians of this generation, but for me, you know, philanthropy is quite a selfish thing for two reasons. One is that I feel better about myself, because I've been incredibly lucky in my life and I think there's a lot more capable people out there than I ever was that probably don't have the lucky break or didn't have that opportunity. So if I can create that for them, if I can create an environment where fortune is generated for people, then I feel a little bit less.</p> <p>It's a bit the imposter syndrome story right. So you know, I feel like I've been a little bit too lucky in my life. I feel like I've got to amortize that with a little bit of giving back. And then the second part of course is the fact that if you're building a future for your children and grandchildren, why wouldn't you want the most wonderful, inspirational and thoughtful and clever young people to come through and find the solutions that they're going to affect their lives when they're growing up. So it's a</p>

	<p>purely selfish dynamic to want the best for my children and grandchildren going forward.</p>
<p>Leo von Gerlach</p>	<p>And it's probably also a little bit on what you mentioned earlier, this holistic approach that in the end everything needs to add up. So if you want to be an entrepreneur, you should rather be a responsible entrepreneur that in the end you just make a positive contribution, as I understand you, and that I think easily then just triggers me to ask. There are not only entrepreneurs in this world who make the picture fully round but also legislators, regulators, other stakeholders. How do you see their role in making a useful good contribution that in the end we achieve something positive?</p>
<p>Michael Tobin</p>	<p>Well, I know a lot of talk has been around where the jobs will disappear from AI being prolific, right? One of them was, you know, the legal framework, our legal system, is going to be decimated by AI. But I actually think one of the biggest challenges for AI going forward, if you bear in mind that AI is probably the biggest and most important invention in history, and I do believe that the next nearest one was the internet itself. But AI will change everything yet again by fundamental quantum, so the legal questions that it brings up range from "If AI develops a combination of content that draws from multiple environments, who owns that IP? If AI is driving your driverless car and it has an accident whose fault is it? Is it the AI? Is it the car? Is it the car driver? Is it the car manufacturer? Is it the software updater?" All of these different things are going to be legal issues, including data sovereignty, GPL, all these things. Then we've not really heard this depth of need for true regulation and I don't think anyone's government is particularly equipped to actually legislate properly for this.</p> <p>So there's going to be lots of errors, positive and negative to you know, say, oh positive, but it's like these things for the wrong reasons, but doing the right things and there's going to be as much of that as doing the wrong things for the right reasons. And I think that as we evolve so rapidly and one of the slowest evolutions that you can imagine is our ability to accept new technologies. Our ability to accept technology. That's one of the slowest parts of the whole system here, and the delta between our ability to accept and the evolution of technology with AI is getting wider every day. So we need to form some system that allows us to stay abreast of regulation as it changes.</p> <p>The example I give is if two driverless cars head towards each other going in the opposite directions, and we're both sitting reading the newspaper in the back seat, and an elderly gentleman falls in the road on one side. That car now has the split second ability, which humans don't have, to say I'm going to swerve and miss that man because I have instant reaction. But if I swerve, I need to call the car that's coming on the other side of the road, and they lure him so that he can swerve and avoid me. So I can do all that and then most two cars then</p>

	<p>can have a debate on the guy on the other side. Yeah, but have you seen there's a lady pushing a pram with two babies in it on the other side? If I swerve, I'm going to hurt them, right? I've worked out that there's an average of 200 years worth of life in that little package, and there's probably about eight years or seven years worth of life on that old man. So why don't you just go ahead and hit the old man and we save our average. And so those kind of dilemmas, that as human beings, we weren't even able to have it because we're just not able to make those split second decisions. We'll be rationally thought out - you can imagine the headline in the newspaper the next day is "Car consciously kills human beings." What that would do to the progress of driverless cars? And yet we would perfectly accept 100 accidents a day just like that when it's human error.</p>
<p>Leo von Gerlach</p>	<p>So that eventually means that we need to think everything through much harder, much more consistently, than we might have ever before with all the grey area. All the ambivalence that we have in our human-existing world which we may not be able to afford anymore in just an AI-driven world, as I understand you.</p>
<p>Michael Tobin</p>	<p>Absolutely, absolutely</p>
<p>Leo von Gerlach</p>	<p>And that leaves the question, then, to those who will drive that change in the first place, probably more so than everybody else, it's big tech at this point in time. How do you see their role in being a just good facilitator in closing in on that delta? What more could be done? Just your thoughts on the drivers?</p>
<p>Michael Tobin</p>	<p>Yeah, I mean, again, you know, I've mentioned that the likes of Google and Microsoft have already been experimenting on many nuclear hubs to drive data centers, right? If we believe, and I certainly do, that we're going to be using our phones more, for example, next year than we were this year or tomorrow versus yesterday. And so I do think that this isn't something that's going to go away. We're going to need more and more and more consumption of power in particular, and the byproducts of cooling and everything.</p> <p>So the cooling systems that the people are developing at the moment are quite innovative with submersive boards into cooling liquids directly. You've got the nuclear pods that I was mentioning -- a lot of people say "Well, we need to develop more wind farms." A single turbine would take decades to pay for simply the cost of producing the concrete and mixing with cement to build the wind turbine, right, and then the cost from the ground that you need to apply to it and the maintenance process. It would take decades just to pay for itself in an economic term, but it looks good. So I think we need to almost stop thinking about the optics looking good and actually try to deal with things, and a lot of people are against the whole nuclear concept.</p>

	<p>But it's a very, very reasonable solution for something. But yeah, we cannot rely on wind turbines and solar panels for data centers. They're just too unreliable, apart from the fact that they give a very, very long payback, if ever. So I think that we do rely on these tech companies.</p> <p>And as I mentioned earlier, the biggest change is that we're moving from a reactive environment, trying to deal with the problems as they're thrown up, to AI allowing to deal with these in a proactive basis. Trying to generate the new kind of version of the data center may not even look like anything we've ever seen before. And I was speaking to someone from Starlink the other day, and they have told me about putting a dozen of 20 CPUs on each satellite. So there's no cooling issues, and rather than transferring data through the satellite, you're actually computing on the satellite itself, halving the amount of time and distance it needs to travel. So I think there's lots of innovation coming through and most of it now is driven proactively by the technologies invention capability itself.</p>
Leo von Gerlach	<p>I really, really like that Michael, because as I take this home in a sense that really every stakeholder should feel encouraged to make a positive contribution for good and in substance. Just rather than thinking about any cosmetics, it's just too serious. It's just too brutal what is coming towards us to be just toying around with that. I think that has been terrifically helpful and we're very, very insightful. Thank you, Michael, for that conversation and thank everybody for tuning in and I hope you will join us next time, for now take care.</p>