

Seamus Allan





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LV & Distributed Monitoring Product Manager
at Dynamic Ratings

Interview with **Seamus Allan**

Ben Lanz: I am Ben Lanz, Executive Advisor to APC Media, which includes Power Systems Technology, Transformer Technology and Women in Power Systems magazines. We are here in Paris, France, at the CIGRE 2024 conference, talking with industry thought leaders to gain their insights into the trends, challenges, and solutions, and bringing those insights to you. Our guest is Seamus Allan with Dynamic Ratings.

Welcome, Seamus.

Seamus Allan: Thanks for having me, Ben.

BL Let me start with a question about yourself. How did you get your start in the industry?

SA That is a good question because I came into the industry as a software and hardware engineer. I thought I was going to be designing electronics and working in some dark room somewhere. I quickly moved into Dynamic Ratings where I was working on software and hardware initially. I could not believe the junction that this company has been working on at this microelectronic level, but also working on a 500kV network.

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That combination of micro and macro is exciting. I just fell headfirst into that because it is a lot of interesting solutions. It is great to be part of that.

BL Fantastic. Now you are the Global Product Portfolio Manager for all your products worldwide. What does that look like? Tell me a little bit about Dynamic Ratings in your role.

SA We come from a background of asset health management, focusing on online monitoring of asset condition.

Measuring as many different data points as we can around particular large assets and then interpreting that data, ideally online, to be able to provide insights to customers to manage and maintain those assets in a more intelligent way is our pedigree. We came into an industry which, for the last 100 years, has done things by putting their hand on transformer tanks or listening to how circuit breakers sound. We felt there was a massive space to be able to take that data and do intelligent things with it, and to capture the knowledge of intelligent people who have been working in this industry for a long time. Those experts who were listening

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to the circuit breakers, they could tell when things were going wrong. We decided to try to work out how we could codify that on top of the measurements that we are taking and then basically make that more accessible for the newer generations and for other utility users.

BL I think you are hitting some of the points that I wanted to ask you about from your global perspective. What are some of the challenges that you see in the industry that we need to be solving or that are creating opportunities for Dynamic Ratings?

SA The senior engineers who have been around for a long time started as apprentices, and worked their way up into these knowledgeable positions, and now they are starting to retire. The talent pipeline has dried up. A lot of young engineers tend to be hopping around quite a lot. The idea of staying at the same job for 40 or 50 years is foreign to a lot of younger people.

There is an emerging knowledge gap of people that might be doing asset management for a transformer or a circuit breaker and who may never have actually seen one or touched one

or looked inside one before. I think that is creating a challenge in being able to make intelligent decisions about what to do and how to operate the equipment. That is opening another door to ask ourselves how we can capture that information, that knowledge, as quickly as possible, and then make it accessible to others through tools that give them the results and then back that up further with services to remediate problems.

BL We have talked with several other thought leaders in the industry, and this is a reoccurring theme. You are saying that your technology and your solutions are enablers, so you can take all kinds of information and do what with it? How do you present that to the customer?

SA Sensing and measuring things are easy. We have done that for an exceptionally long time, and we are able to do that very reliably. We have various products and different families of things collecting data, which is interesting. But if you cannot do anything with that data, it is meaningless and it can create data overload. In many cases, even that data is just sitting out in the substations or on the assets inside boxes in little data islands.



It is either that or they are connected into the traditional SCADA systems where the running joke is that this is where data goes to die. It goes to an operational system for people who are looking to do things at once, not for people who want to merely analyze the data and see what is going on.

BL Are the lights out or not, right?

SA Right, asking if this transformer is on its way out in the next 5 or 10 years, whatever it might be. We have been trying hard to get that data back from the substations and put it in the hands of the right people and in a format that they can digest and understand to take advantage of it. In the last 5-10 years, it has been a massive focus for our company to find out how we get that data back, how to make it all consistent and then how to leverage it to make it more accessible to the next generation. It has been exciting.

BL Is that where you are innovating mostly, that is, in that area of space of trying to get the data and assemble it in a way that has not just alarms going off everywhere, but actionable information?

SA Yes, actionable information and taking the best practices, which organizations like ours are talking about. There are these huge data sets and health indicators what we should be doing with them. Again, putting that into systems that can codify it, raise a flag and say, "come and take a look at this", because based on CIGRE recommendation or an IEEE performance guide or whatever it might be; these are the actions you should be taking based on the measurements that we are taking down on the substation. That is making a substantial value out of the equipment in the substation and the people who are having to look at it.

BL That seems like a daunting task to help solve some of our asset management problems and energy resources. There are so many new systems, such as inverter systems, transients and so forth. This is creating a different environment for our grid. Here you are on the grid edge collecting that data and assembling it in a way that junior engineers and planners who are just coming into the industry and who are maybe attracted to the industry because it is neat and interesting, can access it. How do we create a scenario where we can use the information that we are collecting and solve some of these big industry problems?

SA The emerging problems are the exciting thing right now, aren't they?

It is the same old network, but we have a whole new set of challenges on top of it. With all the inverter-based generation, the large loads with electric vehicles and whatnot, it is straining that network, which has been around for 100 years or more, with a whole lot of new challenges. The utilities cannot go out and replace their network or upgrade all the transformers or do anything like this. They must find ways to use this data, in a distinct way than they would have previously. You need control systems and management of those different challenges, which is stuff that no one could have foreseen 10 years ago, and now we are controlling the networks based on all different parameters than we did before. Having that data available and accessible and able to be manipulated is critical.

BL I heard a statistic that 10% of circuits in the US are capable of handling the loads that we are predicting coming. You and Camlin Energy have your work cut out for you, Seamus.

SA Yes, it is amazing. And everywhere we go in the world, in any of these events, you can see they are having the same conversations. They are saying, "we want to switch to a low carbon economy, and it is going to require an awful lot of electrification which is going to increase the demand enormously". Switching to the non-fossil fuel-based generation with the capacity factors of those stations means you must have a lot more of them. The network is not ready for all of that.

And the amount of work that is going to go into this over the next few decades is going to be phenomenal. I heard someone saying that it was like the electrification era in the early 1900s, where the networks grew at an extremely rapid pace. And in the late 1900s, it leveled off and plateaued for a little while industrialization leveled out. And we are now going through another spurt that will be an enormous growth for the networks. The people are not there, so that is going to be very much data-based and trying to use the tools that we must have. We have got to supplement the fact that we just cannot throw people at it anymore.

BL We are here at CIGRE 2024 in Paris, and it is exciting to be here with you and other thought leaders. What excites you about being here?

SA I think CIGRE is amazing because, again, it is one of those coalescences of people from all over the world who share their problems, their challenges, but also their discoveries. I like the idea that CIGRE stands



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It is great to have people from all over the world come together and share their experiences, their improved models, to compare, to have some good robust dialog, and to come out of it with some amazing recommendations and guidance for the power industry around the world. I think that is what I find super exciting at CIGRE.

for the concept of not reinventing the wheel because utilities have a real tendency to keep looking inwards and solve problems themselves. Often, everybody is solving the same problem, everybody is moving power from A to B. It is what every utility in the world does. CIGRE is this terrific way to come together and say, "we are having this problem" and someone else says, "we have a solution. Do you want to try it out?" I sit in a working group for Dynamic Thermal Modeling of Power Transformers. It is great to have people from all over the world come together and share their experiences, their improved models, to compare, to have some good robust dialog, and to come out of it with some amazing recommendations and guidance for the power industry around the world. I think that is what I find super exciting at CIGRE.

BL Fantastic. I appreciate your insights into the industry, and it is fascinating to hear about all the solutions that you are bringing to solve some of those challenges.

Do you have any final comments for our audience that you would like to lay out there?

SA I encourage everybody to get involved in the industry organizations; to step out of their offices and share that knowledge and see what other people are doing. It is critical. Events like this really highlight the fact there is a great amount to be shared and a great amount to learn. If we do that, I believe we can dramatically increase the rate at which we solve emerging problems. That is only going to have a positive impact for everybody everywhere. If we can do more collaborative work, and through situations like this, I really recommend investing in learning, investing in relationships and networking opportunities. And sharing it with your peers.

BL Excellent, that is good advice. Seamus, thank you so much. It has been a pleasure.

SA Thank you as well Ben.