Interview: Tony Jones – CEO, One Nucleus, UK

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13.04.2018

Tags: UK, One Nucleus, Association, SME, Brexit, Translational Research, Research, Biotech

Tony Jones, CEO of One Nucleus, a life sciences membership organization centered on the Greater London-Cambridge-East of England corridor, discusses the role of SMEs within the UK's healthcare ecosystem, translational research, and how the association's members will navigate the post-Brexit landscape in the UK.

One Nucleus, which was established in 1997, is a Life Sciences & Healthcare membership organisation centred on the Greater London-Cambridge-East of England corridor. You tend to have as a dominant base of members, many of which are SMEs. What role do you feel SMEs play within the UK's life sciences picture?

A major strength of the UK is invention and innovation – applying our great research output with disruptive people. We know that in the economy generally, innovators do not always sit well within big corporate structures unless managed effectively. These innovators therefore need a sense of ownership as well as of drive and purpose. If we analyze from where new jobs are created, new products and ideas are originating, it mostly tends to be from an SME base. Most SMEs feel the same pressure as everyone else whether it's finding the right people or getting the right working capital to help translate ideas into businesses and products. Often it is just about maintaining and building relationships. SMEs are like glue within this ecosystem when one looks at a big universe like an academy where talent gets trained as well as funds are provided for research. This provides the pharma companies with the choice of picking up ideas and products from a multitude of places.

Social change has been massive. I think most individuals really analyze before starting a job nowadays. When this generation attends a job interview, they are interviewing the company much more than what happened a few decades ago. They question themselves whether this job can accommodate the lifestyle they want. They need to be in control. Years of research conducted by the Work Foundation among others came to the conclusion that the elements of what makes a good job is the sense of control and the freedom you get from your job. If that doesn't suit, you then start your own company to get that sense of control. Social changes are therefore allowing people to feel that they can achieve this and also when they see other people doing it, they see the opportunity for them and have the motivation to get it done.

When it comes to technology, whether in the life sciences or elsewhere, especially when research is to be done, there is a trend to outsource the job to a company whose expertise will be valuable and insightful. This creates ample opportunities for SMEs. It also provides them the chance to be much more disruptive in the process. If you enter a big company and advocate your discovery process – which could be amazing technology, but needs to reconfigure everything internally then finding the right internal investors and getting approvals can prove to be quite a task. However, the ability to outsource this and buy back the finished product allows a greater degree of disruption. It leads to disruption in both the thinking and the technology of that product. Social change is a dynamic part of this industry and technology is changing faster than we have ever seen it before so it's almost inevitable that it will be disruptive.

How exactly does One Nucleus cater to the growth and scope of its members? What are the main interests that the company is trying to represent?

When we changed leadership in the summer last year, we questioned ourselves, 'Why are we here?'
Answers like raising money, converting deals and drug discovery development all cropped up but the main focus should be on insuring a smooth deal flow along with collaboration. One Nucleus was created to focus on helping accelerate the translation of great science into economic and patient benefit. Many of the cluster type structures are funded from the government side, such as the Northern Powerhouse, Golden Triangle etc. With the Life Sciences Industrial Strategy report, the key relies on how to concentrate on a certain place.

One Nucleus looks to help companies achieve the growth they envision when it comes to accelerating their product development or company profile. The three main requirements of most of these companies are technology, people and money. We match everything against what are we able to contribute in bringing those areas together. This thus provides a flow for acceleration and

how various pathways come into play. We help facilitate the right people meeting each other and staying on their radars. We undertake initiatives to generate the investment to those companies and their clusters. The only way growth will be substantial is when peers question each other on the most effective ways of getting a job done. It is all about working within an ecosystem of experts to see how far we can push this and that isn't specific to any part of the company cycle. There will always be gaps in knowledge if they are doing it for the first time or they want to evaluate their options. One Nucleus helps connect our network's expertise and excellence to the rest of the world.

Being successful from any of our companies is not only gaining success in the UK but rather gaining partnerships, acquisitions or licensing deals globally. One of our roles is to link up our member companies with our peer groups like Life Sciences British Columbia, or BIOCOM in the US. We link with a number of cluster groups and keep our members posted about various advancements that happen in different parts of the globe. Nothing happens by accident as we have to ideate what some of those structures and pathways are as we work in a highly innovative industry. One Nucleus works in a highly innovative field, so we should be capable of coming up with different solutions in connectivity and opportunity – otherwise, we become the weak link in the chain. We need to be extremely confident in what we are capable of providing.

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There is an extremely competitive global environment for innovation clusters. There are two models – a government-led, top-down approach, and an industry-led, bottom-up approach. Where does the UK fit within this paradigm?

It's a bit of both, there has been a drive from entrepreneurs, investors and universities to push ideas out and we have seen a substantial amount of these ideas unfolding. This is one aspect where we really excel and our success is celebrated. We are proud of our success which attracts more success and that's what defines greatness.

Nevertheless, in essence, I would say it is a bottom-up push and moreover an attitude. It is however important not to underestimate or overlook the impact of government policies. If we look back to the time of Lord Sainsbury and his advisory group using reports on how clusters and economic development depended upon government policies, we get an idea how important it is to connect within a cluster. It leads to people facilitating ideas, forming partnerships and economic benefits to the government.

What is the One Nucleus take on the *Life Sciences Industrial Strategy*?

It is a very broad church to try and satisfy! However, what was less obvious in it is where the SME community fits. There is a lot in there about universities, the NHS, and big industry collaboration. There was a lot about building bio-manufacturing centers and vaccine centers which is all very important as these are the things we need if we want to scale up our sector.

I would come back to the issue of how we move a lot of our early stage companies to the point they need manufacturing? We have had the patient capital review and the government has done a fantastic job when it comes to incentivizing investors with tax relief schemes and R&D tax credits. There have been a number of robust policies made and hence we shouldn't underestimate the impact the government is having. I believe it's a people thing; it's the connectivity that a multitude of jobs can happen best locally. The energy and the passion comes along when people feel they belong here and are a part of something. What we need to work harder in the UK on is redefining around the clusters. We today have three major clusters – London, Oxford and Cambridge collocated. However, it doesn't permeate with the energy for all the scenarios one may like. If you are a pharma company looking to access that innovation pipeline beyond the early stage companies, how to ensure they are visible and meet the right people? I think there is a real challenge in how we support our structure for the bottom-up approach.

When we look at how hungry Big Pharma is to acquire biotechs, do you think it poses a challenge for those up and coming biotechs?

I think it's a challenge for pharma companies on how they scale and maintain their search capabilities: how to differentiate and target from the numbers of SMEs available globally? How to keep track? SMEs can approach them but 95% of the time pharma companies are getting approached with things which are not in their interests. So how does one filter all that? I think this is where we start to see the change in the pharma sector; we see eg Astra Zeneca as a Large Pharma going to Cambridge to put their research base right in the heart of the cluster. It is all about putting them in the right location to integrate with the innovation base. Of course, the balance must be maintained between local and central, and thus it becomes hard if you have to look for a list through all the UK companies and wish to be close to them all in order to get early sight of new innovation and deals.

Locally, we know most of the companies and have maintained a list but as a central activity, it becomes a time-consuming process to put this list together and it becomes outdated very fast. The good side of having this more integrated pharma being present is that discussions happen at a people level where the end result are projects being progressed and shaped in a way that will lead them along the value chain.

How does big pharma fit in the strategy of One Nucleus?

What we gain from big pharma is a plus point. We give our members a platform on how they can get the best of what they want from the sector in terms of innovation or pipeline. It's about us finding the best ways on getting their message to innovators in academia and companies at an early stage. They tell us their needs and interest, and sometimes, we help them engage at a pre intellectual property stage. It's about understanding areas of science. We have a lot of science work to do in understanding how we would use that in creating a better product.

From the pharma side, the question is who would they like to meet? It's an ongoing process where we work with a lot of corporates; it's about catalyzing good discussions, that's where the people and bottom up bit come along. How one can create the right structures and harness the innovation and great thinking. Ultimately it relies on one individual stating that he has a really good answer to that problem. The nature of it comes down to the fact that it's a shots on goal issue and there is nothing to say where that great idea will originate from. We need to get like-minded individuals having those sorts of discussions, collaborating ideas and finding a concrete solution. One Nucleus gives them the chance to get this done.

Could you give us some concrete examples of successful partnerships which have occurred through One Nucleus?

It's a difficult outcome to monitor. We make those connections all the time but it's never the result of one conversation. Have we played a part in a number of them? Yes. For example, a UK company raised money from a China-based company on a contact they made at an event we did last autumn. We do get this feedback, but we are a little reluctant to seek it because that's not what we ideally do. We don't want to give SMEs a feeling that we are straying into their commercial world.

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What is the general feeling of your members when it comes to the impact of Brexit?

It is never going to be a unanimous decision! International collaboration and funding are really important to a science base and one cannot expect to perform a good job on drug discovery development without a science base. In general, no one would have chosen that route as a group. It was refreshing to see how quickly the life science trade bodies came together to show the government that we have concerns about regulations, patient access to medicines, talent and the mobility of talent and ability to recruit. Funding was another issue and not just for science but more for companies. During the early stages of companies, huge funds have been invested by the

European Investment Bank into seed funds that go on to invest in their portfolios. In the case of where a company or indeed seed fund needs refinancing, what will be the outcome?

I think the barriers to entry may be different, more challenging, but I have complete confidence in the UK science base and innovation pipeline that it will still attract people who want to come, work and invest here. I think it will be really surprising if there isn't a mechanism for UK universities to be integral parts of European projects because collaboration with people who want to work together is always a priority. One hopes that common sense plays out which is what we are hearing about in how we align regulations and try and cause minimum differences between the two while meeting all the other requirements.

I suppose the optimistic part of me feels that challenges are overcome all the time in this industry and this will be just another one. A lot of areas need signing up to if you are a regulatory advisor or a manufacturing provider. Brexit is forcing a lot of decisions upon companies prior to the government deciding what the outcome will be. There are very practical and direct impacts which have not yet been addressed.

What's pleasing is that the life sciences industry stakeholders and lobbyists are unified on their concerns. Accessing the best people and the war for talent is going to be one of the biggest challenges for any organization. If you want to attract PhD students or find the best chief medical officer, you may have more easiness to do so if you are a large organization. This is why the SME voice needs to be is collated, voiced and not lost within this entire spectrum. When the policies are put in place and the practice and regulations, they must not only suit the big company but also SMEs.

What can the UK offer that other countries cannot?

The great thing about the UK is the interdisciplinary nature of how we work in research. Physical colocation as well as interaction. It is the strength in depth, not just across the core sector, but the other skill sets you need to interface with. There are plenty of examples in biology, chemicals, electronics and materials with graphene for example; but you can put all of this in one melting pot because the fact is that the most disruptive innovations are going to come from outside your own sector. We are already seeing other sectors play in the healthcare spaces. So the ability lies in a deep research sense on how we can put this together and develop a great ecosystem which can operate on a local level of enabling really bright energetic innovators to become CEOs for the first time, and therefore, take their ideas forward.

Unless there is an ecosystem of advisors, the right service providers, the right engagement mechanisms, and the right facilities; policies will always fail.

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