Podcast transcript - How do we create life science environments that genuinely support innovation, collaboration and societal impact?

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Robert Hopkins

Hello and welcome to the AHR podcast where we engage in captivating conversations about the built environment and its influence on shaping a more positive future. I'm Robert Hopkins from AHR and have been involved with the life science sector around the North West of England for a number of years now.

We'll be discussing the rise of life science spaces and what this means for academic institutions, healthcare providers, and civic organisations. From attracting commercial partners to balancing technical requirements with sustainability and wellbeing ambitions, we'll explore how estates teams can create environments that strengthen research impact and foster economic and social development.

Joining the conversation today are Deb Hetherington, director at the Scarborough Group International, Gareth Scargill, director of Nexus at the University of Leeds, and Gurminder Sanghera, director at AHR. So please could each of you introduce yourselves, starting with yourself, Deb?

Deb Hetherington

Yes, hello. Really good to be on this conversation. So I'm Deb and I am director of Innovation Ecosystems at Scarborough Group International. And what that entails is, although they're a huge commercial property company with an asset class that looks at science parks and innovation centres, I'm not an architect or a developer.

I look at the non-tangible elements of what makes an innovation site successful and truly an innovation ecosystem. So that's what kind of tenants we have in there, what kind of activity,

incubators, accelerators, what kind of partners we work with across academia, clinicians, etc, to design those innovation pathways to ensure that those places are truly innovation ecosystems.

Robert Hopkins

Great. And Gareth.

Gareth Scargill

Hi. Thank you for having me on the podcast. I'm Gareth, the director of Nexus at the University of Leeds. Nexus is the university's innovation hub with their mission to bring industry and academia together for societal good. Again, I'm not an architect, but I would say my specialism is bringing together innovation environments where businesses can thrive and make sure that, you know, they are bringing innovations forward that are gonna have good in society and really contribute to the UK's economic growth.

Robert Hopkins

Great. And finally, Gim.

Gurminder Sanghera

Hi. So, yeah, I'm a director at AHR. First and foremost, I am an architect. And I work across a kind of wide variety of sectors. But something I'm really interested in is the projects that we're currently engaged in that focus around life sciences and innovation, both for public and private sector clients, including our fellow podcast members today.

So, really pleased to be on this podcast.

Robert Hopkins

Great. So to open the conversation I'll turn to you first I think Gareth to ask you how you think universities and the NHS are adapting their estates to better support regional innovation and economic growth in the life science sector.

Gareth Scargill

Yeah, from a university's perspective, I think in recent years, a lot of universities have become wise to the fact that they need to take ownership of their innovation pathways and really engaging with industry. So for example, at the University of Leeds and some other projects I've been involved in a previous life - so I've worked with universities in Bristol, Newcastle, down in Colchester, in Essex - this is really about gauging mixed use facilities. It's not just about finding a bit of a faculty that's got some space that is available and wouldn't it be great to bring some businesses in to work with us and work with our academics?

I think universities now are really taking it seriously from a capital perspective and are really wanting to use innovation as part of the product mix of a university. So it's not just degrees,

it's not just world class research, it's also engaging with business. And the way you do that is by bringing together a mixed use facility such as Nexus, where we do have traditional office workspace, we do you know, wet and dry laboratory facilities at which not all the facilities that I've seen over the years do have, because that also engages the university spin out companies and give them a home on campus, whereas traditionally, they may have needed to go out either into the wider city, the wider region, which is not really great for that university when it holds the IP, but they've also become wise to actually, it's not just about building what goes on within them. So I also think about Nexus as, we know that from a commercial perspective, it probably doesn't make sense because 30% of the space isn't revenue generating, but that's deliberate and that's about bringing the community together in a collaborative way to work together to really drive forward ideas and research that are going to, you know, make a difference in the world and that's what universities should be about. They should be about making a difference in the world. It's not just about churning out thousands of graduates.

We are here for a reason and that's for societal good. And I think sometimes that's forgotten.

Robert Hopkins

Great. Yeah. And Deb, you're almost Gareth's next door neighbour now in Leeds. So Nexus is going great and you are heavily involved now with the Old Medical School, which is just a few minutes walk away, so tell us a little bit about the kind of, the journey of the Old Medical School and where that's heading.

Deb Hetherington

Yeah, absolutely and just to mention about the university piece, and I think it's important that as a developer that's um. Working in partnership with universities, for example, Sheffield Olympic Legacy Park, we work really closely with Sheffield Hallam and University of Sheffield on their assets there, we are getting a lot of phone calls and a lot of interest from universities who are looking at their estates plan now and post COVID, a lot of the teaching and etc is still hybrid, a lot of their facilities aren't being utilised the way that they used to be and they're really, like Gareth said, looking at the impact of that and the strategic sort of, they're looking more at innovation campuses and that's a really good opportunity for developers who wanna come in and not just have a transactional agreement, but actually it's an operating model.

So the market there is growing hugely, and it's a really exciting time to look at that in terms of the knowledge economy. Outside of that, we also work with Trusts so Leeds Teaching Hospital Trust is a great example and we were very fortunate to be the preferred developer for the Old Medical School, which is the first part of the Leeds Health Innovation Village, which is a wider, sort of 2 million square feet surplus land from the development of the Leeds General Infirmary, which has been ring-fenced by the Trust and the council to develop and really focus on that sort of health innovation ecosystem in Leeds.

So the Old Medical School is about 75,000 thousand square feet and it is a interesting building, Listed in a lot of ways outside and internally, which causes some issues. But we are very, very keen to keep that fabric and the history of that building, which is incredibly important to us as we move forward with it and the intention there really is to build not just a really impressive health innovation site, which it will be because of the people we're working with on it, not least yourselves. But also because I think we've actually signed off, yesterday, Gareth, correct me if I'm wrong but we've got memorandums of understanding with the

Teaching Hospital Trust, Nexus and Leeds Beckett University to really bring together that triple helix model of activity within that building. So it's, as I say, not just the building blocks, but it's also the partnerships and the way that a customer journey will be if a startup comes into that space.

The journey that they go on is gonna be incredibly unique. It's not just taking a space and being co-located near the trust. It's, you know, we sit down and we do a diagnostic with the business, and we will plug them into that ecosystem and the partners that we've, that we're creating now, and we won't open until 27, and we're already creating those partnerships now which is the important part. I mean, the building is important but the activity is what is, what makes it an innovation centre.

Robert Hopkins

Great. And you mentioned there the triple helix model, and that's something Gareth that you are really familiar with as well, isn't it?

It's something that you've used at Nexus a lot. Do you want to just expand a little bit and tell people what the triple helix model is and why the eyes of the world are on Leeds to say 'this is really great, we want a piece of the action too, thank you'.

Gareth Scargill

Yeah, it's absolutely crucial the triple helix approach bringing together public, private sector and also academia, again, to make good in the world, if you like. And in Leeds we've been really successful with that. If you think about the success of Nexus, we've got some public, some university money within that, but our mission is to bring business, you know, particularly innovation driven enterprises into that space, because that's where we see the high growth to be.

It's not brain surgery, although we have some great brain surgeons of course, and trainee brain surgeons in our medical school. We're not trying to reinvent the wheel here. The triple helix is really just common sense if you think about it in that, you know, you've got to have access to finance, but you've got to have access to public partners that can help in the way of planning or open up doors for us. But also then the businesses that we want to work with, whether they are corporates or they are really, really early stage businesses that have just got a great idea, but they don't know where to go with it. They need that support along that innovation pathway.

So it's really exciting and, I think without that triple helix approach, we would struggle to do what we have done. You need all these partners aligned, to make things a success. And you know, [00:09:00] Deb and I work on these sort of things all the time. And like Deb just said, we're really thrilled to be part of the Old Medical School development, particularly in the terms of, you know, activating that ecosystem as it's developed, as kind of the university partner in that. What I really like about is we're coming at this from a non-competition perspective. We're coming at it from a collaborative perspective where we want to enhance and create additionality in the city. So it's not displacement, it's additionality. And we couldn't do that if we weren't working in a helix fashion.

Robert Hopkins

Great. And you talked earlier about the building for both of these sites as the building, as the enabler, not the end in itself. So I guess it's a question for you really, Gim. I mean, I think, you know, I know it's an often use example as the, the ultimate enabler building: MIT Building 20, built in 1943.

It was supposed to last for two years when they were doing the radiation experimentation during the second world war. 50 years later, it was still there. Nine Nobel Prize winners had gone through that building. It wasn't the most beautiful building in the world, but it was the building that led to some of the greatest innovation at MIT. So as an architect, what are the challenges of creating a building that is an enabler rather than the end in itself?

Gurminder Sanghera

Yeah, it's a really interesting question actually, Rob. And I think, you know, just to echo what Gareth was saying there about actually it's more about the kind of ecosystem and the community and the collaborative spaces that you have within the buildings and the culture and the community that really create a successful kind of innovation hub.

And whilst I'm an architect and I'd say, I know it's the building first and foremost which is so important actually it's the enabler really. It kind of, what we found in, when we helped deliver Nexus for Gareth was we learned an awful lot more about how people need to kind of work and collaborate and come together within those facilities.

And now we're obviously developing the Old Medical School with Deb and the team. What we're starting to realise is the different environment and the setting that's kind of required, a more professional, and collaborative setting that brings together academia, public, and private sector partners.

And what that really requires is greater flexibility and adaptability to kind of meet the fast-paced and evolving requirements for R&D in the sector. Really important, and so examples of that really with these buildings. So, I mean, it's a hugely challenging building as Deb alluded to the Old Medical School, from the 1800s.

And also the fact that it's previously used as a research and teaching facility and then pathology labs, it's gonna come with its challenges being Grade II* Listed. But what we're learning is about how we can create very hybrid research and digital, activated spaces, you know, AI driven, drug discovery, robotics, and things like that start to influence space and flexibility and modularity. And this is really interesting for us as architects because it really starts to create a rich and interesting brief and the convergence of office and lab space. We learned a lot about that with Nexus, but what does that look like in the short, medium to long term? And so we need to think about really how spaces can really adapt in an agile manner, very quickly. Because when you're carrying out research programmes, you wanna a lab space that is adaptable in a matter of weeks, not a matter of months.

And that has to reflect the kind of research, the pace of research and programmes that a lot of these new startup businesses are looking into and then exploring. So yeah, it really interesting in terms of what it means in terms of the architecture and the space that we create to support all of that.

Robert Hopkins

And I think Deb, you picked up in your intro about the scalability of this opportunity as well. You know, the conversations we're having generally across just the higher education sector, not even taking into account NHS Trusts, is that they're looking at right sizing their estates post COVID.

They may be 30% too large, it might even be 40% too large. So there's literally hundreds of buildings across the UK that already exist to scale this sort of idea of life science and innovation into kind of, you know, ready made difficult, but ready made buildings that are already there.

How does that look from your perspective?

Deb Hetherington

It looks exciting. Loads of opportunity and you are right, universities, combined authorities, councils, Trusts, we are having lots of conversations with entities that are reviewing their estates and have surplus land and have, you know, yes, a lot of the buildings are difficult or they're not necessarily the easiest things, but in terms of retrofit options, taking into account the sustainability piece, there's a lot that we can do with those types of buildings and they're huge opportunities for us. In terms of looking at buildings, we do have a look at buildings, from time to time and the things that we look at are multi-use options, multi-tenant options. Labs are important to life science entities, but there are so many innovative options in terms of labs now.

There's a great little company in Leeds that have set up that do some really interesting things around sort of agile labs. So, I think there's a lot of opportunity there. It's just looking at it slightly differently, in terms of development opportunities with sort of historical estates.

Robert Hopkins

Yeah. And from your perspective, Gareth, I mean obviously Nexus it was a new building. It's in a really great location on campus. How do you see Nexus over the next five to 10 years? Will it continue to develop in the kind of the physical constraints of a building in Leeds or will Nexus grow and have tentacles around the city, around the rest of the UK.

Gareth Scargill

Yeah, absolutely. We have a dream that potentially we could go internationally. If you think about the landscape of international student recruitment, which is one of the huge drivers in the higher education scene right now. A lot of the reason that a lot of HEIs are under pressure is due to the new visa restrictions.

So we have to take a different approach to how we, you know, dangle the carrot of the University of Leeds internationally, and we've seen a lot of our peer institutions that are setting up, you know, whether it is research facilities or teaching facilities, innovation facilities, particularly in those countries like China and India.

Potentially North America. So yes, I have an ambition that we could see the Nexus tentacles spreading far and wide in the future, thinking a little bit more closer to home. Although the

building, you know, it is still relatively new and we're always congratulated on how new it still looks, even though we've been trading for six years, is looking at how we can

make use of an agile facility. So what we've found in the last year is a lot more university spin outs that are becoming commercially viable, that particularly need lab space. So we went for a long time within Leeds of not really having a demand for particularly CAP two wet lab facilities.

Whereas now we are full and we're looking at potentially is there spaces in Nexus to create more laboratory space. And we're actively having those discussions right now. So we do want to be able to react to the market, but be able to bring that forward quickly because the business we work with don't wanna wait.

The university is very brave in setting up its arms length subsidiary company to operate Nexus so that it could be agile and not get bogged down in university committees and capital discussions that way.

It's really important that when if I just come back to the design element, and it's difficult in a building like the Old Medical School, but perhaps from off plan new buildings, that they need to be as agile as possible. So, you know, with some of that infrastructure built in, so you could take a suite of offices and turn them into labs or different types of facilities.

And one thing we're looking at right now is the innovation of dark labs whereby, you know, you set an experiment off in a dark lab and you might not go in there for a year. So you need your office and your space right next door because the experiment's going on in a dark lab.

That's something that I saw at the Jaguar Land Rover Innovation centre in Warwick. And I think we need to learn from corporates as well as universities that are doing these things. 'cause a lot of corporates are now building their own innovation spaces and there's a lot of learnings from those two.

Gurminder Sanghera

I'd like to come in on that actually. And Gareth, you're absolutely right. Being able to adapt space very quickly as I kind of was alluding to earlier, is so important. And I think that was one of the things that we considered and learned from Nexus, about creating very adaptable modular MEP services where you can plug and play.

To allow you to expand and contract space very easily, without taking too long in doing that was really important. And I think that's one of the things that we're starting to explore now, touching on what Deb mentioned as well, there's some really innovative, kind of lab specialists out there that are bringing new products onto the market that we've been doing a lot of R&D around ourselves, around modular, kind of lab systems where you can adapt them to provide a much wider variety of functions because when you start thinking about startup businesses, they don't have that investment and that money to be able to take on such intensive lab space for a long period of time. They might be just using it for a very short period of research on a specific funded project.

And therefore, you know, these modular lab systems that are coming to the market are really, really important. It doesn't just stop there. It's what we're seeing now is increasing

collaboration between computational scientists, biologists, chemists, clinicians. And that's really calling for a more kind of integrated environment instead of a hard separation between all of these different functions.

And that's really interesting space to be in, uh, especially when you start thinking about then kind of a sustainability in ESG as well, you know, energy intensive labs really require much greener kind of HVAC and circular material approaches and low carbon building systems. So all of this is kind of helping us to think about how can we create, you know, future proof spaces that are really agile and adaptable, that are bringing more collaboration into these spaces.

And I think that's really, really interesting.

Deb Hetherington

Just to reiterate really the point around the flex of space and the importance of that within the ecosystems that we build. We also need flex of agreements, flex of lease, you know, the successful startup hubs and innovation buildings do have that built in from the start, membership models, really unique offerings, or they're becoming less unique now because developers in particular are understanding that startups can go from requiring one desk to requiring 20 within the first round of investment a hundred plus, but then they can also hit a barrier and come back down again.

And that's really normal in the lifecycle of a startup. So for developers and real estate entities to understand that and be able to offer what the market requires is super important as well.

Robert Hopkins

Great. And again, that sort of climate of startups, there's some amazing statistics in terms of the probability of a startup succeeding if it grows within a university campus and a university environment, which is brilliant news. So I guess it's a question to you, Gareth, about what you can do to attract academics into these spaces to actually support those startups, that they're not simply seen as, you know, the next door neighbor, but integrated into what the life of the university campus is all about.

Gareth Scargill

Yeah, I think, traditionally academics wouldn't have particularly engaged with small businesses. A lot of them would've had their own industry partners that they work with on particular research projects. And that's the way that they would, you know go about creating their four star papers and their citations and that was all about their career advancement. But what we're starting to see now is that business engagement in some institutions is now part of what you would deem the promotion criteria. So not just about bringing in funding either, but how many industry engagements do you have? How many partners are you working with?

So we are really starting to see a change in that dynamic. And the academics that are switched on in that space are the ones that are also, you know, it helps them when they are bidding for grants to research councils, but also then it's giving some commercial experience and learning to academics that we find don't have particularly great entrepreneurial skills.

So, you know, academic founders have all the great ideas and you know, have generated the IP and they've been through proof of concept and validation. But when they then come to a place like Nexus and then they're talking to investors, what you then found is they don't have those commercial skills.

So we're working with organisations like Northern Gritstone that will place someone on the board to help that founder succeed. Whereas in the past, it would've been easy to ease that founder out and then, you know, they're not involved in that business. And we're really starting to see a shift in that

now, in that founder engagement, particularly from an academic perspective, the longevity's there, but that's 'cause institutions like ours are really investing in those commercial skills and those, you know, entrepreneurial learnings that they really need. So I think academics are now starting to embrace, um, you know, generally spinning out and generally engaging with business. Whereas 10, 15 years ago almost certainly that wasn't the case.

Robert Hopkins

Great. And Deb?

Deb Hetherington

Yeah. So one of the roles that I have is as an associate at Leed Beckett University, and they are working really strongly on their sort of entrepreneurial skills for academics because, as Gareth says, it isn't generally historically as strength of academics to also be commercially minded and entrepreneurial.

So it's really tying that in and again, Gareth mentions it, the rankings of universities rely on a number of things, research, knowledge and teaching. And in terms of the knowledge piece, that's something that universities in the UK are really pushing that enterprise, knowledge transfer element, which the universities in America have done so well for many, many years.

They're very commercially driven. And although I wouldn't like to see it go quite so far, because again, Gareth said at the beginning, which really resonated with me, university's place and academics place is founded in societal change and I would hate to see it displaced to the point it is fully focused on commercial, but equally we live in a very tricky time at the moment economically.

So universities do need to be a bit more smart about that in terms of commercialising their IP and it makes complete sense. And one of the things that the Medical School is gonna do is bring together clinicians, academics, and entrepreneurs in an environment, a place-based environment that can encourage and support that kind of co-innovation.

And I think that's gonna be a really, really interesting one to see what kind of commerciality comes out of those conversations in that activity.

Robert Hopkins

Great. And finally just to move on to funding and how we can make all of this happen. Obviously there's been a lot of challenges from academic backgrounds in terms of funding

over the last few years. There's been again, a political cycle where, suddenly life science has had a lot of funding that was coming from North America as has suddenly been redirected into sort of research within North America, as you talked about. With a crystal ball, what do you think a great funding model is going to look like for someone like yourself, Deb?

Deb Hetherington

It totally depends what hat I'm wearing, but if we are talking about development and the Leeds Health Innovation Village, for example, I actually think that government has got it right with regards to supporting that. And I think the Old Medical School is a really good example of the triple helix partnership working really effectively because there is a capital grant involved in that development because commercially it was not a viable project. So that shows and proves that central government really do support the and its investments zone funding. Sorry, which for those that don't know, investments zone funding is the prerequisite of delivery for that was, it had to be based around the knowledge economy and a knowledge base. And the Trust is obviously the knowledge base that we're utilising, but our partnerships with Nexus and Beckett really sort of cement that. And Rachel's recent budget, it's doubled down on that sort of supporting capital infrastructure projects. And I think at a time where the knowledge economy is where we are gonna grow you know, massively here in the UK our skills and our talent are really important, although not commercialised as well as it could be, the infrastructure will really, really support that.

So, for one thing that government's doing right I think is supporting the digital and the sort of super tech agenda.

Robert Hopkins

Great. And from your perspective, Gareth, do you feel like there's any further evolutions in funding models that will help Nexus to achieve its ambitions over the next five to 10 years?

Gareth Scargill

Yeah, I think so. And I also think it's also good not to kind of look inwards too much, that we should look at best practice that is out there. It's gonna be very hard for an institution like Leeds at the moment with such a vast campus that is looking currently at a 18 month master planning to right size the institution of the future, to find the capital, for example, to build another Nexus.

That's just not gonna happen anytime soon 'cause capital is really being targeted on an ageing estate with new demands from the students and the research of the future. I look at places like Liverpool where that joint venture between public, private and finance has really started to make a huge difference in that city.

Went on a study visit last year and I was blown away by the way that JV is really starting to make a difference. So I think it's really important that although, I guess the university was able to do Nexus, seven, eight years ago because the times were different. We didn't have the funding landscape we have now.

But almost certainly if we were able to bring some match, through things like, you know, what is the next iteration of the investment zone, phase two that would be useful. But also

we need to be thinking, you know, outside of the box a little bit. And also if we need to copy best practice from elsewhere, like the Liverpool model, then um, it's something we should be looking at and we are actively looking for.

Deb Hetherington

You need a developer partner, Gareth.

Robert Hopkins

Absolutely.

Gareth Scargill

Well, we've got one, haven't we?

Robert Hopkins

Joking aside, Gim, what does that next five to 10 years look like? From an architectural or from a design perspective in terms of how we kind of look at existing estates and, you know, say we completely accept that capital programmes for new buildings will be a challenge whether it's an NHS estate, whether it's a local authority or whether it's a university, what will we do differently in terms of how we look at people's existing buildings to help them.

Gurminder Sanghera

Well, I think that's a great question and a really important one you know lots of universities are struggling with a really ageing kind of portfolio of buildings.

And we know 80% of these are still gonna be around in 2050 when, you know, we're admittedly or are gonna be operating on a net zero carbon, kind of criteria and stuff. And so I think actually repurposing buildings is more important now than it's ever been. And I think actually they can create an opportunity to do something so unique with the right kind of partners, public and private sector, and creativity.

I think, you know what should architects plan for the next, you know, even five to 10 to 20 years is thinking about kind of lab spaces that can change function in days, not months. You know, mechanical flexibility, adaptable uses, seamless integration of digital, and wet lab workflows.

I think this is really important. You know, so much is being done, computationally now that you can prototype things within computational labs and not actually have to carry out those physical experiments, and I think that's really interesting. But the collaboration between that kind of work that goes on and having it literally adjacent to the biologists and other people

is really, really interesting. So focusing on that and focusing on sustainability, thinking about how we can kind of reduce energy consumption and have carbon neutral MEP and architectural solutions is ever so important. And that's all gonna come down to having more kind of mixed use campuses I think, at universities, where R&D manufacturing, talent

development, public engagement can all kind of coexist on one connected site, and that's where it's gonna be different from where it is now. I think it's about more, kind of strategic master planning and thinking about how you can create kind of these better connected you know, we've used the word ecosystems, during the podcast today.

That's ever so important in bringing in public, private, academia partnerships in these buildings as well. And I think the buildings that are out there already, do offer the flexibility with some creative thinking in terms of what you can do with them. So yeah, I'm very positive about what the future could be and repurposing existing buildings.

Robert Hopkins

Well, that's great. I think we've run out of time now for this particular podcast. So we hope our listeners have enjoyed the episode. Thank you all so much for joining us. You can find all our podcast episodes on our website or you can subscribe via your preferred podcast platform.

Thanks again for listening. Thank you for joining us on the podcast, and we look forward to seeing you again next time.