Unlocking Laboratory Space for
the North East Life Sciences Sector

Case study

LightOx

North East Combined Authority | Kim McGuinness North East Mayor

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To support the continued growth of the health and life sciences sector in the North East of England, and to meet the ongoing demand for more laboratory space in the region, the North East Combined Authority, in partnership with Invest Newcastle, is showcasing how existing buildings in the region can be converted and adapted into new commercial laboratory space.

The following case study looks at the journey of pioneering life sciences company LightOx in securing a new laboratory and office space in the North East.

Company background

Founded in County Durham in 2018, LightOx is a life sciences company specialising in the development of light-activated therapeutics aimed at addressing complex diseases, such as oral cancers. The company has developed a new class of small molecule fluorescent drug-like compounds, which overcome the limitations of current light-based treatments. With intrinsic light activated cell killing properties, LightOx's compounds have the potential to revolutionise light-based therapeutic markets.

The company's mission is to leverage its innovative light-activated drugs to create more effective therapies that minimise side effects and enhance patient outcomes globally.

The Challenge

Having experienced rapid growth since its launch, LightOx was operating across two sites in the region - one in County Durham (Durham University) and one in Newcastle upon Tyne (The Biosphere, Newcastle Helix). As its technology moves forward and its team continues to grow, the company wanted to relocate to a space where it could bring all its operations under one roof, as Dr. David Chisholm, Head of Technology at LightOx, explains: "Since our activities are so diverse, we realised it made more sense to create a facility in our own image, rather than try to fit into a building that was already set up for something else.

"We also knew we wanted to remain in the North East as it's a region that firmly supports the growth of the life sciences sector and all the businesses within it."

The Solution

Working with local networks and property partners, LightOx was able to identify a site that met both its technical and logistical needs. Mandale Park in North Shields, part of North Tyneside's largest industrial trading area, is just seven miles from Newcastle city centre. Directly opposite Tyne Tunnel Trading Estate, Mandale Park will eventually house 24 hybrid commercial units.

Despite being slightly further away from the center of Newcastle upon Tyne than originally planned, the new site offers a host of benefits, as David explains. "The additional space Mandale Park offers, along with the good transport links via the A19 and the nearby Percy Main Metro station, meant that it fitted exactly what we were looking for."

"We were able to design a new facility that gives us complete flexibility for the technical work we do, whether that's chemical synthesis, formulation, precise analytical testing, or biological screening. We can quickly reconfigure equipment and adapt workflows to suit a wide range of projects.

"We've installed a modern air-handling system to maintain stable temperatures and walk-in fume hoods that can be adjusted for both small and large-scale processes. This adaptability means we can reconfigure the space quickly for new projects but also suit the demands of our growing team."

The company's new location in North Shields also means it can continue to access the North East's unique combination of world-class universities, skilled talent, and a collaborative life sciences ecosystem. "From strong networks and supportive innovation hubs to close links to the region's hospitals and a lower cost base, there are a lot of benefits to being based in the region.

"One of the biggest advantages is the excellent transport connectivity to other major innovation hubs, such as Manchester and Liverpool. This accessibility makes it easier for us to collaborate with research institutions, universities, and other life sciences companies, broadening our network and supporting the growth of our business. There's a real appetite to work with partners across the UK."

The process of locating, designing and building its new site highlighted to LightOx the importance of finding contractors that buy into the vision for the laboratory space. "Partners like Opti-Pharma and Direct Windows, who are all based in the North East and Yorkshire, were brilliant at listening to our requirements and generating designs that not only matched our technical requirements but also at the budget we were working to," said David.

"In my experience, there is a tendency to overspecify when it comes to "science" buildings and the result is a space that is so complicated that nobody knows how to fix it when things go wrong!"

The project proved to be hugely successful and LightOx moved into its new space in November 2025. Despite being a positive experience for everyone involved, the company did identify areas they might approach differently if they were to do it again, as David explains. "I would consider exploring sites located outside of the city center at an earlier stage. Although these locations may be less central, they generally offer far greater value for money, increased space, and improved access to facilities.

"If I could pass on some advice to other life science businesses about to embark on a laboratory/office move, I would suggest inviting potential partners to visit your space and share your vision – you'll find out quickly if they are the right fit. Also, don't be swayed if your ideas differ from traditional layouts, such as those you might find in a university setting. What matters most is creating an environment tailored to your team's needs and aligned with the unique processes of your business."

The Future

LightOx plans on being a global company, not just a local company, and it also wants to build on its commitment to excellence in people by improving skills development across the sector and sparking people's interest in life sciences.

Dan said: "Just because something's difficult, that doesn't mean you can't do it. I'm a firm believer that those situations breed innovation. As a region I think we're open to change and exploring new ways of working, and in the life sciences sector we need to adopt that creative mindset if we want to grow businesses beyond the incubation phase.

"My advice to anyone seeking a new office/lab space is do it yourself - give it a go. There's a lot less regulation in R&D and experimental biotech. And as long as it's not going to bankrupt you as a business, see what you can achieve on your own. If it works, you've done something incredible."

Key facts

Name of company	LightOx
Number of staff	10
Location	D1 Milburn House, Newcastle Upon Tyne, NE1 1LF
Duration of project	Two weeks
Project team (contractors)	Dan Todd (Founder and CEO) and Josie Todd (COO)
Main lesson/challenge	Startups can often be priced out of established or purpose-built lab facilities, and a lack of understanding of the requirements of life sciences businesses means building owners and contractors or less likely to create spaces for them. LightOx believes incentivising building owners and contractors to create suitable spaces for growing life sciences companies would provide tenants for office blocks and much needed space for startups.
Main benefit to 'doing it yourself'	Adopting an experimental and DIY approach delivered a cost effective lab space that met the company's needs, and the regulatory requirements of the industry.