



LUCIDEON

Company: Lucideon Ltd

Knowledge Transfer Partnership: Cell testing to assist development of novel biomaterials.

Lucideon's work is at the cutting edge of ceramics and materials applications, which range from aerospace to healthcare. The company identified an opportunity for in-house cell-based testing specifically for in vitro biocompatibility and toxicity. This project should increase the critical data available, and build a significant income stream through licensing revenue.

Challenge

While Lucideon has clear strengths in chemical/physical property testing and applying Design of Experiments methodology, historically it has sub-contracted biological testing.

An integrated cell testing facility will complement Lucideon's current suite of medical device services, allowing it to expand its client-based testing and consultancy business. Excitingly for the business, it will also result in an increase in critical data on material biocompatibility and performance. This adds value to the company's platform technologies, building a significant income stream through licensing revenue.

Process to Solution

The objectives are to set up and validate a new in vitro test facility within Lucideon, and to assimilate and embed the understanding, capability, and commercial potential of the testing facility throughout the company. The desired outcome is to drive faster and safer innovation and development of medical and biomedical devices, so that future developments can move from R&D to market more easily.

As of February 2023, the Knowledge Transfer Partnership (KTP) is two-thirds complete. The partnership has prioritised preparing novel materials at Lucideon and cell testing approaches at Queen Mary. The cell test lab has been specified and will be established in Lucideon's new facilities, which open in mid-2023.

The KTP enhances the company's existing industrial-academic relationship with Queen Mary. Lucideon has a long-standing relationship with the university, offering one-year placements and providing industrial-driven R&D projects to undergraduates. Staff members sit on the Industrial Advisory Boards for the School of Engineering and Materials Science (SEMS) and the company has worked with Dr Karin Hing on hydroxy-apatite projects, including supervision of PhD students.

So far, the KTP has produced novel cell test data on calcium phosphates (potential as bone-replacement offerings) and 'iCRT' a patented controlled release technology relevant to pharmaceuticals. For the latter, being able to show a lack of cytotoxicity is critical to engaging interest among potential users of the technology.

Great engagement from the KTP Associate, David Shepherd, has highlighted the potential of cell testing as part of the business, showing it to be complementary to Lucideon's existing testing. As such, transfer of staff between the two disciplines should be easier and provide flexibility in terms of managing shifting demands for different tests.

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The KTP project has enabled our business to concentrate on this exciting and potentially important area. We predict that the ability to manage cell testing at Lucideon will help to generate £4M+ of royalty and licence deals within five years of the KTP finishing. We would also expect £200K additional commercial consultancy work per annum – a 30% increase on current revenues – and £300K per annum of fast-turnaround standard cell test work over the same period. This KTP generates significant benefits for all parties.”



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Collaborate with us

