

Press release: Intellegens, CPI announce oligonucleotides project

On August 30, 2023 in Biologics, Drug Discovery, Life Science, Manufacturing

Intellegens and CPI awarded £1.6m Innovate UK grant to advance oligonucleotide therapeutics with machine learning

- Programme validates utility of Intellegens' Alchemite™ machine learning technology
- Two-year project supported by six leading pharmaceutical research organisations

Cambridge, UK – 30 August 2023 – Intellegens, a company applying machine learning (ML) to drug discovery, has secured a [£1.6m grant from Innovate UK](#), part of UK Research and Innovation (UKRI). In collaboration with the [Centre for Process Innovation \(CPI\)](#), the two-year project will utilise ML as a tool to enhance productivity and yields of oligonucleotide therapeutic manufacture through advanced process control strategies.

intellegens



Offering high specificity with the ability to treat an extremely broad range of diseases, oligonucleotides are a key focus of pharmaceutical research. However, their full potential is yet to be realised, as manufacturing is a complex and costly process for a small number of specialist companies. Therapeutic oligonucleotides are large, complex molecules that require significant purification and analysis steps. The workflow presents many challenges, consisting of a long and costly process.

Intellegens' [Alchemite](#) is a set of advanced ML artificial intelligence algorithms and tools designed to optimise materials, formulations, and processes. The novel adaptation of machine learning can extract insights from the typical of experimental programmes and chemical and biological processes. The tool has been applied across multiple industries, including [modelling small-molecule drug pharmacokinetics](#) and [novel additive manufacturing processes](#) with collaborators including Boeing. The results have led to increased manufacturing efficiency.

The collaboration will validate Alchemite as a tool to improve productivity in oligonucleotide manufacturing. Through automated data processing and process modelling, Alchemite will be used for a range of applications and subsequent optimisation of quality control strategies and process parameters. The project is supported by the Manufacturing Innovation Centre (MMIC), providing world-leading expertise and state-of-the-art facilities.

Ben Pellegrini, CEO, Intellegens, said: "The potential of oligonucleotide therapeutics to treat a wide range of conditions is unfortunately held back by manufacturing capabilities. We are extremely pleased to announce this collaboration and experts from across the life sciences to apply Alchemite to improve manufacturing productivity."

Dave Tudor, Managing Director of Pharmaceuticals at CPI, said: "We are really excited to see the potential of oligonucleotides to treat a variety of conditions. Oligonucleotides are complex and costly, meaning very few companies are able to harness this potentially life-saving and life-changing technology. At the Manufacturing Innovation Centre, we will look to bring together a community of experts for the development of the Alchemite tools, reducing development times and improving manufacturing efficiency."

Ben Pellegrini, CEO, Intellegens

Dave Tudor, Managing Director of Pharmaceuticals at CPI

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About Intellegens

Intellegens enables its customers to apply advanced machine learning methods through chemicals, manufacturing, and beyond. The company's mission is to be the leading machine learning solutions provider for complex problems in industrial R&D and manufacturing processes. Alchemite™ originated at the University of Cambridge, Intellegens, in close collaboration with a growing community of customer organisations. Intellegens provides machine learning solutions for manufacturing, aerospace, batteries, biotechnology, ceramics, chemical processes, consumer goods, food and beverage, formulated products, paints, plastics, and printing technology.

About CPI

CPI catalyses the adoption of advanced technologies and manufacturing solutions to be

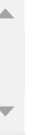
We're a pioneering social enterprise that accelerates the development, scale-up and commercialisation of HealthTech, materials, and pharma innovations. Through our incredible innovation expertise in healthcare and drive towards a sustainable future.

As a trusted partner of industry, academia, government, entrepreneurs and the investment ecosystem to make great ideas and inventions a reality. We believe by working together with our Value Manufacturing Catapult, we facilitate access to world-class organisations to deliver

Creating lasting global impact from the North of England and Scotland, we invest in people, circular supply chains and make our world a better place.

About pharma at CPI

Developing next-generation medicine manufacturing innovations to deliver tomorrow's vaccines



alternative drug delivery systems.

Let's innovate together: <https://www.uk-cpi.com/pharma>

About Innovate UK

Innovate UK drives productivity and economic growth by supporting businesses to develop the UK's world-class research base. They connect businesses to the partners, customers and commercially successful products and services, and business growth.

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