THE AUSTIN COMPANY

# Austin Update

2023 / 2024

DESIGN | CONSTRUCT | INNOVATE℠

## Kindeva Drug Delivery Ltd

### Alternative Propellant, Line 4

Kindeva Drug Delivery is a global contract development and manufacturing organisation (CDMO) focused on drug-device combination products. Kindeva develops and manufactures products across a broad range of drug-delivery formats, including pulmonary & nasal, injectable, and transdermal.

As part of meeting their sustainability goals, Kindeva are looking to replace the existing propellant medium in their pMDI inhalers with HFA-152a or HFO-1234ze which have 90% and 99.9% lower GWP than P134a, currently the greenest propellant used in the industry.

Austin were commissioned to work closely with Kindeva's team to develop the concept and preliminary designs for remodeling part of the ground floor of the main production building to create new Grade D cGMP environment for the new filling line and the commercial and clinical batching rooms.

Upon completion of the Preliminary Design & Engineering Study (Step 1b), Austin were appointed by Kindeva to progress the detailed design and competitive procurement stage initially followed by construction through to completion.

The design entailed using, where feasible, the existing building services systems installed by Austin some 20+ years ago when the building was first constructed.

Following an assessment of capacity and condition, the existing supply air handling plant was to be used to provide the required air change rates and pressure cascades. With new ATEX rated fans for extraction in the Damage Limitation Construction (DLC) rooms.

The newly installed external ethanol and propellant plant provides the required medium for the batching vessels from where it is piped to the filling enclosure unit.

An existing purified water plant is being modified and recommissioned for the process application in the water bath for testing purposes.

A standalone BMS has been designed to control the ventilation plant with a separate EMS system to 21 CFR 11 and EU GMP Annex 11. This was to provide the necessary monitoring of the temperature, humidity and pressure differentials in critical areas.

Flammable gas detection systems are being provided in the batching and filling rooms which raise alarms and in the latter case initiate the boosting of extract ventilation as a mitigation measure to reduce the risk of developing an explosive atmosphere.

Austin has worked closely with the specialist process vendors for the filling line and the batching equipment and with Kindeva's in-house user groups, in completing the detailed design.

A noteworthy aspect of the design includes the ATEX rated batching and filling rooms which were designed to FM Global guidance for Damage Limitation Construction (DLC) and include explosion vents on the facade of the facility.

The design of the DLC rooms involved working closely with specialist companies to ensure the required pressure resistance for the rooms was met and the necessary explosion relief blast vents were incorporated.

Austin have concluded tendering the various works packages and commenced construction on site. We look forward to concluding this important project for Kindeva.

# Pharmaron UK Ltd

## Sigal Building, Biosciences Laboratory Expansion

The Sigal building at Hoddesdon has been successfully converted from its original use as an office building to a suite of Biosciences laboratories and support facilities such as write-up, offices, etc. The project was technically challenging with very limited head room, structural requirements, perimeter constraints and limited space for the mechanical engineering solution. The design had to be aesthetically innovative to align with Pharmaron's requirements, and technically advanced to support Pharmaron's forward-looking field of science.

The resultant design required Austin to develop an entirely external plant space on the roof of the existing building. With its space and structural constraints, the roof area was developed entirely in a Revit/ BIM environment. The outcome was a highly successful response to a tough challenge within the realms of building conversion projects. The perimeter of the roof had to be acoustically protected to minimise noise leakage to the nearby residential boundary of the site and dressed aesthetically for visual impact.

Internally, the spaces have been subdivided in agreement with the three department science leads and the stakeholder teams. The aim was to create a collaborative and forward-thinking solution to a complex floor plate layout. The increased daylight penetration and the visual connectivity between the various spaces has made the Biosciences facility an engaging place to work.

The use of materials, configuration, and functional use, aligns with the principles of designing for neurodiversity. This has been highly praised by the new occupants for its balanced approach to creating spaces for low and high stimulation work, various approaches to the creation of collaborative hubs, low traffic areas and quiet and active work zones. Austin continue bringing this level of innovative design to all of their projects moving forward, especially as awareness of this form of deliberate environmental development becomes more prevalent within both Pharmaron's and Austin's worlds.

# Charles River Laboratories Ltd

## New 50L GMP Plasmid Stream Facility

The Austin Company was appointed by Charles River Laboratories (CRL), a major US Biomedical company, for a project in the Stephenson building at their Keele University site. The CRL Stephenson building supports the development and manufacturing of cell and gene therapy in the form of plasmid DNA for clinical and commercial supply.

The facility has over 145 staff and is made up of c. 1400m$^2$ of manufacturing and 300m$^2$ of warehouse space. The manufacturing space has 10+ ISO 7 Grade C production suites in two manufacturing areas. All areas include HEPA-filtered HVAC and operations are product specific.

CRL had an urgent need to upgrade the existing (Phase 1) RNAse-free 50L process within the building by repurposing existing cleanrooms in the facility to create one additional (Phase 2) upstream train and one additional (Phase 2) downstream train.

Project scope included remodelling four small rooms into two larger rooms; the combined room was designed to be Grade C with all finishes to match the existing GMP areas. As part of the project, new services were introduced in various key locations to serve new and relocated equipment use as part of the process stream.

The project plan was to co-locate the Phase 1 and Phase 2 upstream areas so that all the live processes were together. To accommodate CRL's manufacturing commitments, the necessary works had to be undertaken during the shutdown period, which was our main challenge as we had only a narrow window of two weeks.

Through detailed strategic project planning broken down as daily and hourly elements, the project was successfully completed on time and fulfilled all quality aspirations.

CRL have since commissioned Austin to take on further urgent works at their Keele site, and discussions are ongoing to look to partner more closely globally.

*"Austin were very client focused and determined in driving the project to success. They delivered the project on time and on budget. I felt that Austin were a good choice for our project."*

*Nicholas Leonard – Associate Director, Global Category Procurement, Charles River Laboratories*

*"Austin's design was good considering the limited information provided and lack of access to hidden services. Their Construction Project Management was excellent, very helpful and accommodating."*

*Keith Miller – Project Manager, CBRE*

# Nestlé R&D Centre, York, UK

## Energy Saving and Carbon Reduction Study

Austin were tasked to develop a solution for various energy and sustainability needs at Nestlé's Product Technology Centre (NPTC) facility in York. The NPTC facility, primarily dedicated to the research and development for confectionery products, was designed by Austin over 30 years ago. The main objectives of this assignment was to consider replacing fossil fuel-dependent equipment, reducing annual energy costs, and aligning with corporate $CO_2$ emissions reduction targets for 2030 and 2050.

To achieve these goals, a comprehensive assessment was conducted. Firstly, the existing heating capacities were evaluated, and options for alternative heat sources were explored. These alternatives included gas-fired boilers, biomass boilers, ground source heat pumps, air source heat pumps, and 4-pipe heat pumps for both heating and cooling.

The assignment also focused on reducing annual energy bills. This involved a thorough review of fixed building services and control strategies. Potential energy-saving measures were identified, such as modifying heating and cooling systems for better efficiency, upgrading plant equipment, optimizing HVAC systems with inverter-driven fans, and reconfiguring ventilation systems to enable shutdown during non-operational hours.

Efficiency improvements for fume cupboards and electrical supplies were also considered.

This assignment addresses both short-term and medium/long-term objectives, offering a holistic approach for Nestlé to consider options on reducing energy consumption, costs, and carbon emissions in line with Nestlé's sustainability goals.

Research and Development

# BP

## New Oil Blending Facility

The BP Technology Centre has carried out research and development of fuels and lubricants for the past 40 years.

Forming part of the Technology Centre, the Blending Centre creates medium to small batches of specialist blends of lubricant for the electric and combustion engine motor racing industry.

The blending process itself is reliant on manual handling and BP wished to examine the overall process. These entailed analyses of the process whereby it can be improved:-

- by enhancing and improving safety standards
- increase efficiency in terms of people and raw material materials, through to finished product.
- such that the use of ride on forklift trucks within the Blending Facility building can be phased out to achieve BP's key safety goal.

Austin, in conjunction with their long-term process partner (HPS), were asked to support BP to undertake a review of the existing facilities to:-

- Identify constraints
- Options for improvement and development of initial design proposals with the BP stakeholder team to establish:-
    - the project brief
    - feasibility design level options
    - define quality aspirations and spatial requirements
    - process engineering flow diagrams
    - mechanical and electrical building services considerations
    - an order of magnitude budget estimate
    - a high-level design and construction programme

Austin undertook a feasibility and concept study in line with the RIBA Stage 1 & 2. This required working closely with the BP and AECOM to understand the process that BP undertake in arriving to the final product and the overall requirements for the site.

The close coordination with the BP's technical team enabled Austin and BP to develop a number of options, all of which consolidated the two parts of the blending facility located in two separate buildings as well as the provision of flexible mechanical assisted manual handling and introduction of automation of the blending process for the medium volume batches.

The outcome of the study delivered safety enhancements and process efficiency improvements in terms of minimising manual handling, providing improved and efficient production and operational flows in the proposed facility. This extended to the introduction of "clean in place" (CIP) of the blending equipment whilst being mindful of sustainably goals.

Austin look forward to working with AECOM and BP on the next stage where sustainability and energy efficiency will be considered in more detail with the production requirements and BP's global strategy.

# Meducan Ltd

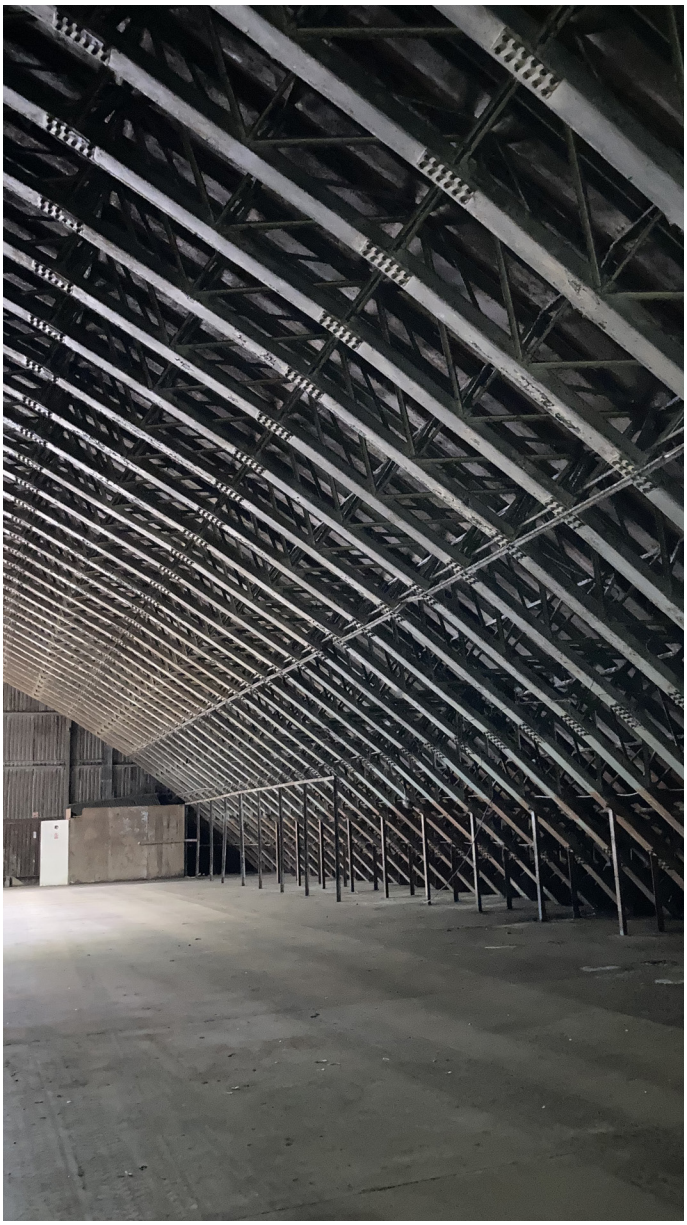
## Concept Design Study for Fit Out of Non-Perennial Crop Growing Facility

Austin have worked with Meducan supporting them establish concept designs in their field of non-perennial crop growing facilities that support the biomedical industry. This latest project has seen numerous optioneering studies for multiple sites across the UK.

The field of work that Meducan undertake requires Home Office and MHRA approval, and Austin have been there to help understand the facility requirements for technology that is needed in order to develop the conceptual requirements.

The team at Meducan bring impressive set of skills and knowledge to a company at the forefront of their field. Working with international partners to design, develop and rationalise systems, Austin have supported Meducan with this project and remain part of their progressive development team in the science and technology.

The concluded concept design study will be the second of its kind for Meducan in this exciting new field.



# The Austin Company of UK Ltd

## Designing for Neurodiversity

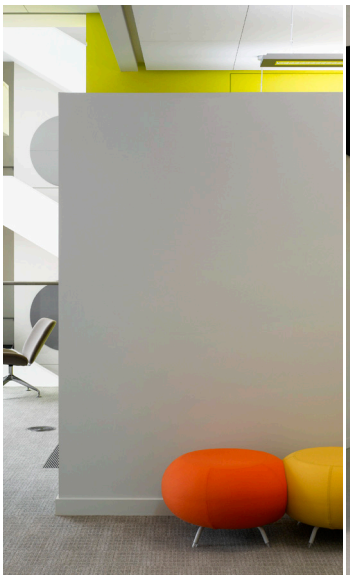
With just over twenty percent of the tested UK adult population showing non-neurotypical traits in brain function, information processing and behaviour, there is a push to help define assistive design techniques that can improve the working environment for all.

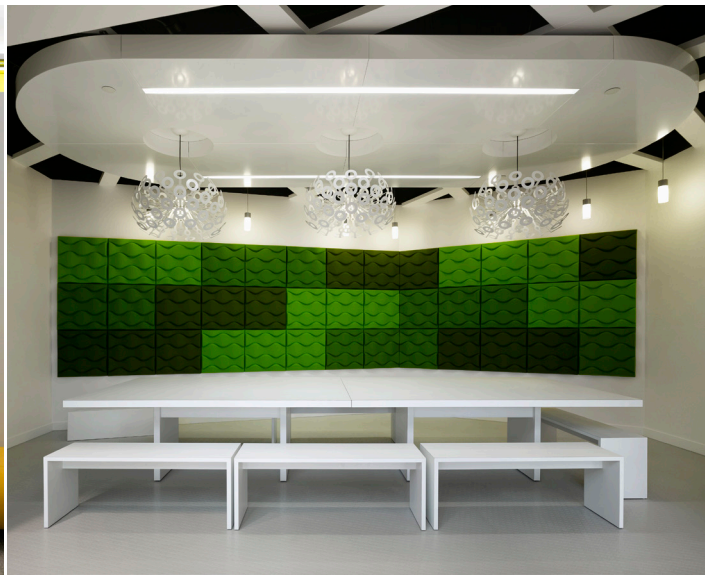
For a lot of clients having a neurodiverse workforce comes with huge benefits and allows access to a wider range of talent. Within the business sectors that Austin's caters for, there is often reportedly a higher than average number of neurodiverse employees.

As such, Austin have been quietly improving the spaces that we design to assist those people who bring such amazing gains to their teams and our clients. As the research develops, so will Austin's ability to create inclusive spaces that bring an improved working environment to all users. We have already received complementary responses to some of the works we have recently already undertaken in this field.

This year the Austin Company were delighted to be invited to represent our sectors at the Altro sponsored conference on design for neurodiversity. The two day event in London played host to a global committee of designers, scientists, researchers, and specialists within the field of neurodiversity research and the built environment.

Now, within its fourth year the forum has traditionally focused on the social and medical care sector where more obvious collectives of non-neurotypical users is prevalent, the group is expanding its field of research and application to create improved environments for a wider range of sectors, users and environments. Austin look forward to help develop an understanding of the practical application of special design where unobtrusive interventions create user areas that cater for the betterment of all. We hope to bring you updates and more information on this subject in the future.





# 2023 RoSPA

## Order of Distinction Award and 15th consecutive RoSPA Gold Award for Austin

We are happy to announce that Austin earnt their 15th consecutive RoSPA Gold Award, plus this year we received the RoSPA Order of Distinction Award for commitment in Health & Safety within work environment.

Only through close cooperation and commitment to continuing with the good safety practices we are able to keep pace with the ever rising Health & Safety standards. We would like to thank all our dedicated teams, suppliers and clients for prioritising safety on site to keep all employees and visitors safe.

Julia Small, RoSPA's Achievements Director, said: "Accidents at work and work-related ill health don't just have huge financial implications or cause major disruption – they significantly impact an individual's quality of life. That's why good safety performance deserves to be recognised and rewarded.

We are thrilled that The Austin Company of UK has won a RoSPA Award and would like to congratulate them on showing an unwavering commitment to keeping their employees, clients and customers safe from accidental harm and injury."

2023 RoSPA Order of Distinction

# Managing Director's Update

## 85 and counting

In August, we celebrated the 85th anniversary of The Austin Company's operations in the UK.

Reflecting on over eight decades of our journey, I pause to appreciate how far we have come and the substantial growth we have achieved. Our success in this niche sector is attributed to the dedication of both past and present teams committed to quality, a reliable supply chain, and the trust bestowed upon us by our clients for their ambitious projects.

The year 2023 has been marked by significant successes and notable differences. Our colleagues devoted considerable time and effort to prioritise the health and well-being of our personnel and the supply chain engaged in works on site. Looking ahead to 2024, we plan to extend this commitment by fostering greater awareness of mental health and well-being across all our projects.


In June, we relocated to our new offices at Croxley Park, seizing a unique opportunity to rejuvenate the working environment. This move has positively contributed to a sense of team unity, creating an inviting and pleasant ambiance in our workplace.

September saw the establishment of Austin's presence in the Northern region of the UK, enhancing our ability to provide services more efficiently to locally based clients. Throughout the year, we had the pleasure of reconnecting with esteemed clients such as MARS, Nestlé, Procter & Gamble, while also forming new relationships with Charles River Laboratories, Bard Pharmaceuticals, ZeroAvia, and others.


In October, we were honoured to exhibit at the Autumn Placement & Careers Fair organised by Brunel University. Beyond opening doors for young students, it presented us with the opportunity to bring on board dynamic individuals who embody a passion for modernisation and innovation in engineering design.

A heartfelt thank you to our exceptional staff for their outstanding contributions, and to our supply chain and clients for entrusting our team. Wishing everyone a healthy and happy 2024.

Prakash Davda
Managing Director

# Austin's Presence in North

## Welcome, Paul!

In September, I joined Austin in the role of Northern Regional Director with the primary role of developing client relations and project delivery across the UK Northern region. I have over 30 years of experience in building services engineering consultancy and contracting in the UK and overseas. I was drawn to Austin due to their distinguished reputation within the pharmaceutical and life sciences sectors and ambition for growth.

Maintaining values for excellence and customer satisfaction, I am passionate about creating sustainable and innovative solutions that meet the needs and expectations of our clients and communities. I welcome the opportunity to work with the Austin team to deliver sustainable projects for customers across client sectors.

Best regards,
Paul Walker