

GW Pharmaceuticals, South East England

Large Scale production and processing plant integrating science and development of cannabidiol medicine on track!

Austin are privileged to be engaged by GW Pharmaceuticals, from conceptual design (Step 1a) through to preliminary design (Step 1b) and into detail design, procurement and construction management services for their large scale production and processing facility in the South East of England.

GW Pharmaceuticals are global leaders in developing cannabinoid-based medicines. Their lead product candidate, approved in the US and undergoing approval in the EU, is designed to treat rare and severe forms of childhood-onset epilepsy, potentially offering relief to patients for conditions that previously had few treatment options.

In our last update, Austin reported that we were progressing the detailed design of the building, services and process engineering for GW Pharmaceuticals' new expansion and upscale process production facility. The facility has been designed and planned in close liaison with GW Pharmaceuticals' stakeholders.

The design, now concluded, was undertaken using BIM 3D modelling. The civil works, structural frame and external shell components were constructed based on the output of our BIM model. These were tendered early to fast track the construction on site in order to meet the critical programme dates. Construction started for the new multimillion pound facility with a ground breaking ceremony in October 2017.

While the construction was in progress the detailed design of the internal architectural elements were completed and tendered to allow the interior fit-out to start in May 2018.



The mechanical and electrical detailed design followed by fully co-ordinating this with the external shell and internal fit out. This included complex interfaces with production process equipment. The M&E detailed design was completed to allow the services contractor to be appointed on a competitive basis for a start in June 2018. The 3D modelling tools used have been invaluable to enable close co-ordination between the structural frame, architectural elements, process equipment, process piping, EC&I and M&E building services. Austin were also responsible for co-ordinating and integrating specialist process engineering models from client vendors and sub consultants based in Europe to create a single fully co-ordinated 3D BIM model for construction.

Austin engaged a process engineering sub consultant locally to carry out the preliminary and detailed design of the

processes equipment, piping and EC&I. In order to meet stringent time scales some of the process equipment had to be ordered early to enable the project programme to be achieved due to delivery periods essential for such specialist equipment, while the process piping and EC&I were developed based on vendor information.

"We are in the middle of a major expansion of our manufacturing facilities and are pleased that we selected Austin to undertake the studies, design and construction of this challenging project"
Manuel Loureda, Manufacturing Operations Director, GW Pharmaceuticals

In order to fulfil the demand for the cannabinoid medicine the construction is undertaken in two phases. In order to achieve GW's criteria Austin established a complex construction programme to enable advanced tracking in order to ensure the programme dates are maintained.



Barry Callebaut, Banbury

Academy for the fastest growing speciality and decorative chocolate industry in the world.

Following the completion of the Barry Callebaut roasting house in 2015, Barry Callebaut invited Austin to create a design feasibility study for a New Chocolate Training Academy which was completed in November 2017. Following several reviews, Barry Callebaut have instructed Austin to design and build the new Academy which is to be located within their existing factory boundary in Banbury, Oxfordshire.

The need for a New Chocolate Training Academy is a direct result of the growth Barry Callebaut are experiencing. They are the fastest growing speciality and decorative chocolate industry in the world. Running their UK operations out of their existing kitchen within the factory is no longer sufficient for their requirements.

The new Academy will accommodate the growing number of patisserie chefs and chocolatiers from the UK and Europe and to



create new recipes. Additionally, it will be the focal point for the Barry Callebaut factory and their UK and European operations.

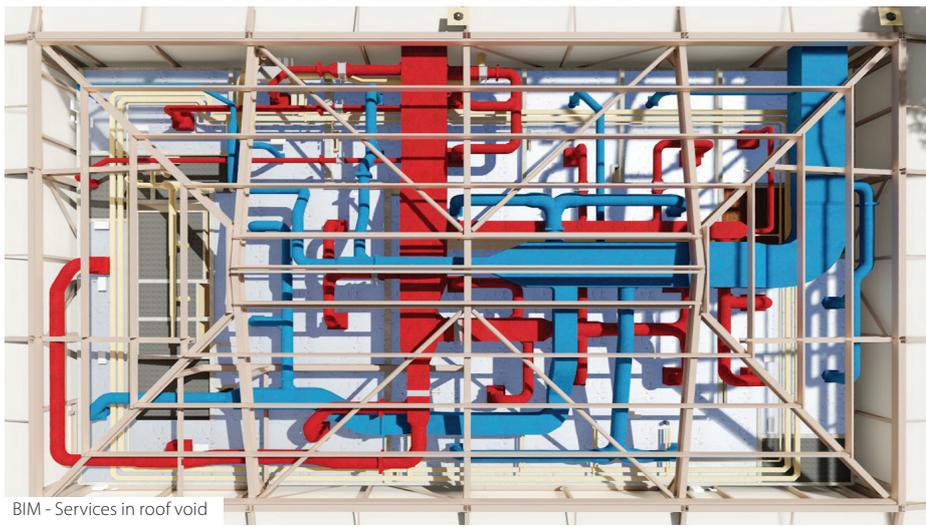
The Academy will provide a multi-functional

facility whereby chocolate preparation, teaching and live streamed demonstrations can happen concurrently. The new facility will also house a one-of-a-kind chocolate spraying booth where chocolatiers can create two metre tall sculptures and statues to be entered into the Cacao Barry Chocolate Masters.

Barry Callebaut have requested that Austin incorporate their innovative use of audio-visual equipment for brand awareness and social media outreach.

The building is a stand-alone steel portal framed construction with external cladding panels and roofing emulating a "pavilion in the sun". The building will incorporate all associated mechanical and electrical services and the main plant located in an external yard with a boiler house.

Construction commenced in August 2018 with the completion anticipated in 2019.



BIM - Services in roof void

"We have successfully worked with Austin over a number of years and rely on them to provide sound advice followed by implementation of the work" - Robert Harrison, Sales Director - Gourmet, Northern Europe, Barry Callebaut.

Ipsen, Wrexham

Identifying future space requirements.

In support of Ipsen's site strategy review, Austin were appointed to assess the provision of manufacturing support accommodation at the Wrexham site with the aim of identifying future space requirements over the next five years. This study included a review of current working practices, building condition and capacity in order to identify the space supply. Austin worked closely with the Ipsen teams to identify the future demand for accommodation on a group by group basis. This allowed us to establish when the shortfall of accommodation would occur and identify potential development opportunities to meet projected growth and time. This type of study is an essential part of long term strategic planning to support business objectives.

Remodelling Labs in London

Establishing baseline requirement, analysing opportunities and constraints!

A major repeat client recently approached Austin to assist in the consolidation of their research activities into London. Austin worked closely with their team to establish their baseline statement of requirements, drawing from their past experience with this client, spanning 20+ years. This included an analysis of the opportunities and constraints presented by a high profile multi-storey development opportunity and evaluated its potential for use as research laboratories. The building's prominent location and potential impact on views to key city landmarks required a detailed assessment of servicing strategies and innovative solutions.

Bio Products Limited, Elstree

Critical Project with a limited time scale.

BPL provide a continuous supply of reliable, high quality plasma-derived products worldwide, supporting both healthcare professionals and patients every day. They undertook a review of their GMP production facility changing area in Building 27. The work included provision of a new changing area, relocation of materials airlock, adaptation of areas to form instrument room, office etc. with the associated mechanical & HVAC modifications, controls, electrical, data and building works.

The work on site had to be undertaken within a limited time span (10 days) during their annual shutdown period.

Austin were initially appointed to undertake a detailed design some eight weeks prior to BPL's annual shutdown. During the detail design period and some three weeks before their annual shutdown Austin were commissioned to procure, appoint subcontractors and specialist manufacturers to implement the physical works on site.

Austin advanced the works in accordance with their internal methods for delivering 'Critical Small Projects' in line with the stated requirements during the overall shutdown period.



The work extended to commissioning and balancing of air systems to maintain an array of cascading pressure regimes associated with sterile manufacturing areas, ranging from Grade C to non-classified areas.

Critical Project Support

Rapid response design, engineering and principal contractor support.

This South East client appointed Austin to assess and review their requirements for upgrading the production plant structures in their general manufacturing area. In order to do so Austin undertook detailed condition surveys and analysis of the existing structures, plant and reviewed their overall requirements. The designed solutions entailed determining and designing the requirements to maintain the plant operation in its current position with minimum disruption.

The design, manufacture and installation of the upgrading works were completed within a three month period enabling the plant to be recommissioned with minimum downtime and loss of production. This

design services extended to Austin personnel providing dedicated on-site support and being an integral part of the client's team in leading the CDM requirements over the total planned programme period. The works entailed 304 Stainless Steel platforms, 3 No. 6,700 litres 316L stainless steel digester vessels, upgrade of controls, new spray dryer burners etc.

Austin continue their design and support services with design, CDM (Principal Designer, Principal Contractor/SHEQ support) requirements including replacement of the site's new 12 MW production cooling system.

Wellness in the Work Place

The next generation of Biophillic Design.

As a company we have been aware of the concept of biophillic design and its benefits for a number of years. However, until now there has been little research to back up these theories of design. Teams of architects, scientists and doctors have been working and researching for the past seven years to contribute to the WELL building standard which is an accreditation from the International WELL Building Institute (IWBI).

This idea takes environmental sustainability and biophillic design to the next level. In their own words they wish to revolutionise the way people think about buildings. They use a basis of the following eight design principals – air (the quality of air coming in and out of the building and reducing internal pollutants), water (the cleanliness of the water provided on site), light (responding to the bodies circadian rhythm or task specific lighting), comfort (responding to the bodies senses - acoustics, smells, temperature, ergonomics), nourishment (availability of being able to make healthy food choices on site), fitness (strategies of encouragement

to be physically fit), mind (understanding that mental fitness is as important as physical fitness), innovation (to be open to constant adaptation and advancements). All of these points focus on optimising human health within their built environments resulting in reduced employee sick days and improved occupant productivity and attitude towards work. Not only have companies benefitted from the improvements from their employees but have noticed a higher staff retention and better public image for prospective employees and customers.

Here at Austin we have a passion for providing our clients with sustainable holistic facilities and environments that provide long lasting health and wellness benefits. If you wish to discuss this subject please do contact us on enquiries@austin.co.uk



DiaSorin, Dartford

Production of in-vitro diagnostic products in a FDA-CBER compliant facility.

We have successfully completed the construction of DiaSorin's new manufacturing facility within their existing facility in Dartford. We started this project from preliminary design study developing their requirements, through to detailed design, procurement and execution of the physical requirements on site.

The new 1,050m² facility has allowed DiaSorin to expand their manufacturing of Liaison products and storage of intermediates, allowing for a number of key functions including material preparation, reagent manufacturing, assembly & packing, storage and engineering support to meet DiaSorin's long term business objectives.

Austin developed a strategy for upgrading part of the existing ground floor areas into to Class 8 and non-classified spaces for less critical areas, whilst maintaining operations in the rest of the facility. A detailed review of operational practices was undertaken and a layout agreed which best met DiaSorin's needs.

Austin proceeded to undertake the multidisciplinary detailed design, in conjunction with the DiaSorin Engineering team and into construction to ensure compliance with FDA



and CBER standards for Class ISO 8 facilities.

Construction commenced early and was sequenced to minimise disruption to the building users and planned over six days/week, to achieve the completion date. The project included integrating a large number of specialist items including

assembly and filling lines, autoclave, dry heat steriliser, magnetic chamber, MSCs, bench top equipment and new purified water system.

IQ/OQ protocols were prepared and successfully executed by Austin, with the facility handed over to DiaSorin for their start-up.

GW Pharmaceuticals, South East England

Research explores potential therapeutic application.

GW Pharmaceuticals has been researching cannabinoids since 1998 and has established a world leading position in the development of plant-derived cannabinoid therapeutics through proven drug discovery and development processes. Their research explores the potential therapeutic application of cannabinoids.

GW Pharmaceuticals had a need for additional Quality Control laboratories on their site and were looking at Building 735, a single storey building on the existing campus with an approximate usable area of 1,030m².

The original use of the building was as a life sciences unit which required the deep mezzanine level for M&E services. Structural steel supports specifically designed to support air handling plant on the roof were provided. Access to the mezzanine level and the roof was via a staircase from ground floor.

GW Pharmaceutical's existing QA laboratories are located in an adjacent building which incorporates other departments. As part of their strategy for improving efficiency, logistics and to facilitate expansion of their manufacturing operations, GW Pharmaceuticals were exploring the viability of accommodating the QC laboratory in a separate building.

Austin were appointed to provide a concept design for the remodelling of building 735 to form their new QC laboratory. Austin completed the concept study which resulted in a solution with two large open plan laboratories separated by a common central office area, welfare and change facility. At the rear are the environmentally controlled storage rooms (+5°C, -20°C and Stability Chamber) which are readily accessible from either laboratory. The gas bottles and solvent storage have been located externally at the rear. A new external staircase allowed access to the roof.

Following the successful completion of the concept study, Austin were commissioned to provide a detailed design for this project.

The key challenges faced were the lack of existing CAD plans, inadequate space for a ceiling void at ground floor, the presence of structural lattice trusses within the mezzanine level and the need to use the existing steel framework for new air handling plant on the roof. Additionally, the fire strategy for the remodelled facility imposed the need for new escapes routes from the mezzanine level as well as an additional drop ladder serving the roof and mezzanine levels.

*"Austin completed and delivered a detailed multidisciplinary design that considered all constraints and provided us with the requirements."
Noel Fenwick, Head of Engineering*

Royal Holloway, Egham

UK Centre for Superconducting Quantum Systems, Electron Beam Lithography.

Austin were appointed to provide Project Management support and technical consulting to support a project for the Physics Department of Royal Holloway, University of London ("RHUL") following a grant secured from the Engineering and Physical Sciences Research Council (EPSRC) for the purchase of an Electron Beam Lithography ("EBL") Tool.

The project encompassed the design and construction of a new facility located within a new 300m² specialist multi-room cleanroom environment, constructed in an existing library building, built to underpin the UK Centre for Superconducting Quantum Systems.

The new cleanroom facility provides an ISO Class 5 environment for electronic nanofabrication of devices for research and small-scale production, including precision temperature control, control of

electromagnetic interference and control of vibration.

Superconducting Quantum Systems

In addition to the EBL tool, the new facility also re-houses existing support equipment of the type normally used in electronic nanofabrication and wafer processing, including wet and dry wafer processing and film deposition tools. Austin's role was pivotal in delivering this demanding and complex project; ensuring the D&B Contractor delivered to the requirements of the performance specification; quality was maintained throughout the project life-cycle and controlled within the constraints set out by RHUL.



"While we knew what we wanted to achieve as a user facility, we are scientists not builders. We knew we would need advice, but in hindsight our Class 5 cleanroom project for electronic nanofabrication required up-to-date knowledge of many specialised techniques in modern cleanroom technology. The advice and project management support from Austin's proved critical to achieving what we wanted." - Prof P.J. Meeson Department of Physics, Royal Holloway, University of London.

Medical Research Council, Gambia

West Africa Electrical Operations.

In early 2018, Austin completed the electrical engineering and installation support duties for the utility infrastructure upgrade at the Medical Research Council's primary research unit in Gambia, West Africa. The project required careful procurement planning to ship in material needed to undertake a replacement of the complete mission-critical electrical distribution systems across the 100-acre site. Austin provided project management support from inception and field

survey through design, procurement, construction and commissioning. The project spanned four years, two of which were required to plan and execute logistics in the developing world where labour and material resources are a constraining factor. The need for an upgrade was identified from the outcome of a sustainability and energy audit which Austin undertook in July 2013.

Major Midlands Manufacturer

Site Strategy and Master Plan.

We are proud to continue our 20+ years established relationship with this client. In late 2017 Austin undertook an audit and assessment of their healthcare pharmaceutical and medical devices manufacturing facility. The audit encompassed existing processes, operations, technologies and building stock. The project team comprised Austin architects and engineers auditing all their manufacturing, research and laboratory buildings and utilities. This included Austin assigning experts in the field of the client's speciality manufacturing operations to assess the various process. The audit allowed our client to identify their long-term potential for manufacturing on the site and the primary areas of focus on the site being at the fore of modern pharmaceutical manufacturing. The audit and assessment provided local senior management and corporate management guidance on future requirements. This identified amongst other areas a need for a Site Master Plan which Austin subsequently completed in early 2018.

ADC Supplier

Potential development sites.

Our client, is a USFDA and MHRA approved site dedicated to the contract development and manufacturing of Antibody Drug Conjugates since 2004. The first ever to offer CMO services in the field of ADC. Austin were invited to evaluate potential development sites and work closely with their stakeholder team to develop a model statement of requirement including space, budget, environment and service's needs. This was to allow them to formulate a basis for the evaluation of a number of potential sites. Subsequently we then undertook an analysis of the opportunities and constraints from three possible sites that were identified to meet the requirements. These were evaluated for their potential to meet the user requirements. This evaluation was underpinned by an assessment of potential programme and construction costs.

Working at Austin

Carve a successful career path.

I joined the Austin Company in June 2016 after working in the Facilities Industry. I took my current position to provide me with an excellent opportunity to progress my career. My initial role was 'General Administrator' within the Purchasing Department. I have recently been given greater responsibility and opportunity to take a lead as a Buyer on a current Project. What I like about working at Austin is all my colleagues are supportive and encourage a can do attitude.

The role positively suits my lifestyle and personal growth plans allowing me to carve a successful career path with the Company. With regular guidance from my peers and colleagues I have been able to move forward and gain extensive knowledge of the Construction Industry and I look forward to what the future holds.



Natasha Platonos, Assistant Buyer

RoSpa 2018

President's Award for Austin's 10th consecutive RoSPA Gold Awards.

Our achievement in managing a continuous improvement philosophy in Health & Safety has led to our tenth consecutive RoSPA Gold Award. These coveted accolades over the years has provided us with a solid foundation to build a robust positive safety culture within the company and has promoted excellence in Health & Safety standards throughout all business operations. The ethos and Health & Safety philosophy allows a positive culture at work to be promoted and forms an integral part of our mission to continually improve.

Austin prides itself on its positive quality management system with its strategy in providing excellence in Health & Safety performance that not only ensures compliance to the applicable legislation but takes personal wellbeing beyond best practice and into excellence in behavioural based safety and beliefs.

We promote positive Health & Safety culture through our behavioural based safety management philosophy and management systems. Our operations are focused on providing clients with exemplary management practices and actively promote worker engagement in all aspects of workplace tasks and site based initiatives.



We thank all our staff and supply chain for assisting the promotion of good Health & Safety practices within our projects leading to an exemplary record.

Austin provide multidiscipline services for the design and construction management of the more complex facilities for clients in the pharmaceutical, life sciences, food, educational and similar industries. We are leaders in the UK as one of the best service providers. We design and construct state-of-the-art facilities that meet and exceed our clients' expectations.

Austin Celebrates

80 Years of Successful Operations in the UK.

We are delighted to be celebrating our 80th year of design and construction activity. This success has been due to concentration on the more complex type of facilities, understanding the Clients' needs and by employing skilled and dynamic individuals who share the same passion for excellence. It has been important to develop relationships that engender a coordinated team between our clients, subcontractors and us, all working towards the same goal; success.



I am particularly indebted to our staff as designers, engineers, construction, cost & project managers whose knowledge and commitment is exemplary. I also thank all our subcontractors who have given us their invaluable support.

Based on the results over the last few years we look forward with confidence in our continued growth and performance. We are committed to providing excellent service and continue our success in BIM, and Health & Safety with an innovative approach.

Should you have a need for a challenging facility, remember to call us for a chat.

Prakash Davda

Prakash Davda, Managing Director

austin.co.uk
01923 432 658

