

Barry Callebaut

State-of-the-art Academy for Chocolatiers

In our last update, Austin reported that we were progressing the multidisciplinary detailed design for Barry Callebaut's New Chocolate Training Academy, using our in-house Architects, Structural, Mechanical and Electrical design engineers. The design has been undertaken utilising BIM 3D modelling and subsequently competitively tendered in a Work Package format to obtain the best possible value for Barry Callebaut.

Construction of the Academy began on site in January this year with completion and handover due imminently.

The single storey steel framed portal building has been positioned in part of the existing car park of the Barry Callebaut compound and provides a stylish, attractive focal point for the whole site, whilst optimising the existing footprint and the image reflects leadership in chocolate product development and augments the Banbury site.

The facility comprises of the main building constructed with external cladding wall panels and roofing that emulates a pavilion in the sun, in a "simple" cost effective building. Directly adjacent to the main building and using the same materials, with a lean-to roof, abutting the main building are further support services such as the plant and boiler room. This is to provide dedicated support to the Academy so it can function as a stand-alone facility. The facility includes external HVAC plant, enclosure for refuse and general storage all clad with security fencing around the facility.

Construction is currently underway with M&E services being fitted followed by resin floors to the main facility and a wood effect to the main reception areas. The ceilings are a combination of metal tile and plasterboard while the wood effect doors with a dark walnut colour reflect and compliment the chocolate theme.

The main Academy space will comprise six bespoke bench units for training and one for the tutors, each housing under-counter storage for refrigerators and other mixing equipment.



The facility allows eight to twelve artisan chocolatiers and bakers to train and innovate with Barry Callebaut's expert chocolate connoisseurs. The facility also includes steam ovens, pastry rollers, ice cream dispensers and chocolate spinners to provide a state-of-the-art Academy. The efficient space planning for the multifunctional Academy supports the requirements for concurrently operating, teaching, preparing and demonstrating activities and a dedicated customer laboratory for chocolatiers to experiment and demonstrate the art of chocolate making and its use, whilst improving the opportunity to encourage bakers and chefs to incorporate real chocolate into their recipes

The new Academy provides an enhanced profile for Barry Callebaut's leadership in the UK market by providing flexible accommodation to suit a variety of customer focused development opportunities and innovative solutions.

"The wonderfully designed and functional efficient New Chocolate Academy will serve two purposes. Firstly it will allow Barry Callebaut to engage with many more Chocolatiers, Bakers and Chefs than currently. More importantly it will improve the client experience by allowing training, demonstration and innovation workshops to take place in a new beautiful state of the art facility" - Robert Harrison, Sales Director

GW Pharmaceuticals

Completion of large scale API production facilities on track with 1st Phase handed over

Austin are honoured to be working alongside GW Pharmaceuticals on the closing stages of their production and processing facility expansion in the South East of England.

The journey for Austin began in 2017, with the production of a feasibility and conceptual design (Step 1a), which was successively developed into a preliminary design and engineering (Step 1b) and through to detail design for procurement and construction (Step 2). The construction phase is in full swing and nearing completion. Delivery has been focused around the specific needs of GW Pharmaceuticals with the facility being delivered in two phases to meet operational needs and business commitments. The requirements entailed considerable complex process engineering involvement for which Austin developed the solutions with GW in-house capability and other process partners.



Austin have worked closely with vendors and key subcontractors to ensure that all aspects of the facility are integrated so that it can be delivered to the highest standard and be operated efficiently using industry best practice. We are now progressing Phase 2 of the facility which includes large scale extraction, complex manual handling and Clean in Place systems.

We are excited to be completing such a prestigious project and delivering another excellent facility for a key Client, whilst providing another world's first.

Mr Noel Fenwick – GW Pharmaceuticals' Head of Capital Projects noted – 'Phase 1 has been delivered on time and to a very high standard in terms of quality expectations.'



With the first phase fully completed, the project is on track to allow GW Pharmaceuticals to increase capacity and capability.

The completed Phase 1 operation includes a new API processing plant and associated production and manual handling equipment all located within ATEX zoned and environmentally controlled rooms, which is aligned with the Phase 2 operation and basis of Safety.

In our last update, Austin reported that we had completed the detailed design of the building, services and process engineering and were starting construction. In close liaison with GW Pharmaceuticals' stakeholders, the complex construction phase is progressing well and is being monitored carefully in order to ensure the programme and cost targets are maintained.



Syngenta

Making Informed Decisions on Huddersfield Site

Austin has continued to provide support for Syngenta in Huddersfield by assisting in the development of a number of strategic options for the relocation of their Quality Control and Environmental Services Group to alternative locations within this key manufacturing site.

Our architectural and engineering specialists worked closely alongside Syngenta's team to assist in developing a robust baseline URS for the QC & ESG facility which could be used not only as a statement of requirement, but also as a tool for carrying out the appraisal and evaluation of the redevelopment potential of a number of buildings.

Our strong technical knowledge of engineering systems, operating regulations and remediation works was a key factor in unlocking the potential of some of these heavily constrained buildings.

Working closely with our in house construction and estimating teams, we developed concept proposals, cost estimates and high level implementation programmes for each development option to allow Syngenta to make an informed decision regarding their preferred strategic option.

Ipsen

Robust Compliant Design

In 2016 Austin delivered a complex R&D facility for Ipsen Biopharma in Milton Park near Oxford by remodelling and fitting out a commercial three-storey building B102, into a state of the art laboratory which complied with stringent containment and physical security requirements. At the time the east wing of the 2nd floor was left fallow, earmarked for future development.

The Austin Company were engaged by Ipsen in March 2018 to undertake a concept design study for the fit-out of this fallow area into an open plan Toxin Handling Criteria (THC) 1 laboratory to meet Ipsen's URS. On completion of this study, Ipsen commissioned Austin to carry out preliminary and detailed design of the laboratory, but to an increased containment standard of THC2 and with an element of flexibility built in.

Austin conducted workshops with the user group and other stakeholders in order to finalise the brief and responded with a robust compliant design which was subsequently carried through to construction and completion. As in the previous phase, the main ventilation plant had to be located on the roof above the 2nd floor. This involved the construction of a structural steel support platform on the roof and the creation of penetrations through the roof slab for ventilation ductwork.

A key challenge for this project was to avoid or minimise construction access to the fallow area through the existing laboratory areas as this would affect the building's containment protocols and general operations. An external access scaffold tower was erected on the



building perimeter, adjacent to the fallow area and an opening formed via one of the large windows. This served to bring in the materials necessary for the works. For this project, the general finishes for the laboratory were designed to match those provided in the earlier phase in the main building.

In order to meet Ipsen's requirement for flexibility, two rows of working zones were designated for mobile benches which were equipped with in-built power and data modules together with flexible cables. To provide flexible connectivity to these mobile benches, specially designed electrical services booms were provided over the two zones. The boom design was bespoke and aesthetically matched the rest of laboratory furniture.

The ventilation system was dedicated to the new laboratory and had its own control system that was linked into the rest of the building BMS. In order to meet the THC2 standard, HEPA filters were provided to the extract terminals.

The layout of the facility included a lobby from the main corridor to the main laboratory and a refuge lobby from the laboratory leading to the escape staircase. The main lobby doors were interlocked.

Our biggest 'Ipsen thanks' should go to the Austin's team who have worked very hard to deliver an Ipsen laboratory we can be truly proud of. - Warren Shaw, EHS & Facilities Director, Research and Development.



Pharmaron

Deep Plan Footprint Challenges

Following the relocation of the previous occupier's Process Development functions, the second floor of the Fleming building at the Hoddesdon site had remained unused. Pharmaron identified a need for additional Process Chemistry Research space on site and wanted to establish the feasibility of developing this fallow space.

Austin had undertaken the redevelopment of the first floor at the Fleming building and were engaged by Pharmaron to undertake a feasibility and concept design study to evaluate the potential for the conversion of the whole of the second floor into research accommodation and to develop strategic proposals for its redevelopment. In addition,

Austin worked with the Process Chemistry stakeholders to develop a concept design for a Phase 1 development to provide a range of process chemistry laboratories, write up areas and associated specialist support spaces which would take up approximately 50% of the second floor space.

The Fleming building has a 'deep plan' footprint which presents a number of challenges; in particular, ensuring access to natural light for the scientists and researchers whilst maximising the potential research floor space; a factor of increasing importance for employers seeking to attract or retain staff.

We considered and evaluated a number of

options with the stakeholder teams. The preferred option proposed to locate the more densely or continuously occupied offices and write up spaces adjacent to the perimeter of the building with the lab zone adjacent and separated by full height glazing. This would allow the laboratory zone to benefit from natural light. The low or less frequently occupied lab support activities were located close to the central plant at the floorplate core. This ensures some of the more heavily serviced areas are located close to the plantroom, providing the potential to minimise ductwork sizes.

Pharmaron have implemented the design and are nearing completion on the Phase 1 fitout.

Confidential Client

Bespoke Major Laboratory Upgrade

Austin have undertaken the detailed design for the replacement of an existing HVAC system feeding seven laboratories. The challenge was to design new systems whilst considering minimal disruption and keeping the other working laboratories operational and to ensure full compliance with BS EN 14175 and HSG 258. At the same time improve diversity and utilisation of the fume cupboards and LEV systems. We were engaged to carry out the detail design with a view to completing this within three months and to start on site with construction works shortly after and implement the new requirements. The design extended to reconfiguration of fume cupboards and laboratory benching in each of the seven laboratories along with associated process water, gases and where possible reusing existing benching.

New variable air volume fume cupboard and local LEV extract systems and associated variable air volume supply air systems were designed for 46 fume cupboards. The ductwork systems were designed around existing services within the existing ceiling voids whilst overcoming physical building constraints of the existing occupied areas.

Four independent HVAC systems were developed for the seven laboratories using intelligent variable air volume systems to conserve energy. Modelling of maximum and minimum operational laboratory air flows with seasonal demand matching were carried out to assess the maximum chilled water and low temperature hot water system demands, to ensure an energy efficient design, utilising heat recovery.

Enhanced acoustic treatment had to be employed with external extract stacks designed to be unobtrusive in order to minimise aesthetic impact. The existing low temperature hot water and chilled water systems were enhanced with provision of new boilers, chiller and pumps. New bespoke oven extract cabinet systems were developed to protect the users and conserve energy.

Austin designed the works to be constructed in three phases whereby laboratories were temporarily vacated and HVAC systems replaced within the first phase including the new external mechanical and electrical utilities and equipment to feed subsequent phases. Furthermore we carried out the mechanical, electrical, public health, civils and structural design utilising in house multidisciplinary teams in order to provide the most efficient solutions in terms of programme, quality and cost. Austin's role encompassed detailed value engineering analysis, constructability reviews and detailed construction planning to achieve continuity.

Upon receipt of planning permission Austin were appointed to undertake the Construction Management role in March 2019 and implement the works on site with phased handover.



Syngenta

Special Reactors Unit on Bracknell Site

Syngenta had a requirement to install a Special Reactions Unit (SRU) to undertake high pressure, small scale chemical reactions at their site in Bracknell.

Syngenta's previous SRU laboratories had been decommissioned and refurbishment of these was one of two options being considered. The other option was to locate the new SRU facility in a different unused laboratory.

Syngenta appointed Austin to undertake a review of the two options and prepare budget costings. Once the selection of the preferred option was complete, Austin was instructed to continue the detailed design of the preferred option and prepare a +/-10% cost estimate for design, procurement and construction services.

As part of this design, Syngenta required new gas cylinder compound located within the immediate vicinity of the new SRU laboratory, with new Hydrogen, Nitrogen and Carbon Monoxide gas lines, safety relief lines, refurbishment of existing fume cupboards and the installation of four 0.8 litre reactor vessels supplied by Syngenta.

Piramal

Antibody Drug Conjugate Facility

Austin has continued their association with Piramal in Grangemouth by providing multidisciplinary support for the evaluation of further potential redevelopment sites in order to establish a preferred location for the expansion of their Antibody Drug Conjugate manufacturing facilities.

Having identified a further series of potential sites close to their current manufacturing facilities, Piramal were able to re-evaluate their requirements and provide Austin with an updated and well-defined statement of requirements for this accommodation. Having worked closely with the Piramal team on earlier studies to establish a detailed understanding of their operational and specification requirements for the new facility, our multidisciplinary team were able to carry out feasibility assessments and provide good cost estimating advice in a relatively short time period.

GlaxoSmithKline

Design and Engineering Support at Ware and Harlow

At GlaxoSmithKline's site in Ware, Austin are developing a feasibility study that assesses the site electrical infrastructure and a possible upgrade solution at for their R&D facility at Ware.

At their Harlow site Austin are:

- providing design and engineering support to assess the functionality of the standby generator systems. This includes identifying any shortcomings and a proposed solution to improve the overall resilience of the system.
- assessing the options available to improve the reliability of the cold store cooling system. This would provide GSK with a preferred solution that can be developed into detailed design and construction.

ON TIME, ON BUDGET, WITH QUALITY.

King's College

Working with a World Ranking College

King's College is ranked in the top 10 UK universities in the world (QS World Rankings 2020) and based in the heart of London. Austin are delighted to have been invited to work with this prestigious organisation to support the University in creating research incubator facilities in the heart of London's centre for biomedical research and innovation.

This project provides new facilities for research and innovation and recognises the value of collaboration and interaction between researchers. Shared meeting rooms and breakout spaces forms part of a ground floor collaboration hub, providing opportunities for informal meetings and discussions and fostering a culture of interaction and knowledge sharing

We recognise that the needs of research companies change. The bio innovation incubator has been designed to provide companies with accommodation which can meet these changing needs. The laboratory accommodation has been designed to provide accommodation which can easily be adapted to suit individual tenants research requirements.

Thermo Fisher Scientific

CDM Support

Austin continue their support to Thermo Fisher entailing CDM Principal Designer and Principal Contractor support duties during a period of essential maintenance and upgrade works on site, critical to their ongoing manufacturing operations facility. This included pre-construction and construction support, developing site arrangements and logistics and producing the construction phase plan.

"Austin Group continue to provide first rate CDM service and support to ThermoFisher MBD Basingstoke and are a great team to work with..." Andrew Wooding, Engineering PM

Opportunities with Austin

Major Career Step



I joined the Austin Company in October 2014 coming from a background in Healthcare design. I was excited to work with one of the recognised leaders in this area as I had never worked for a Design, Construct and Manage organisation in the past. This was an excellent opportunity to take a major step forward in my career and build on my construction knowledge.

I have also been given the chance to take on the role of Architectural Lead on a couple projects which has helped me grow personally and professionally.

Combined with the experiences of site interaction and the guidance from my peers, I have been able to increase my knowledge and progress personally within the company. I have also gained extensive knowledge within the industry as a whole and look forward to what's in store on our future projects - Gerard Francis-Lau.

 **WORKING WITH YOU, FOR YOU,
TO DELIVER THE BEST FACILITIES.**

Cultural Health & Safety

11th consecutive RoSPA Gold Award

Austin prides itself on an exemplary programme of Behavioural Health & Safety that has been successfully integrated in all business areas. This positive philosophy to Cultural Health & Safety has led to an ethos where positive attitudes and beliefs within all staff provide a solid foundation to legislative compliance and beyond, thus providing H&S excellence and exemplary performance.

The Cultural Health & Safety programme forms a major part of the company's mission to continually improve and provide a safer workplace with enhanced standards of Health & Safety and Health & Wellbeing.

The company's goal includes continually evolving operational practices and focusing on providing clients with exemplary management practices whilst actively promoting worker engagement in all aspects of workplace tasks. We thank all our staff and supply chain for embracing Austin's Cultural Health & Safety philosophy and promoting excellent Health & Safety Practices and management systems.



In recognition of everyone's efforts and commitments Austin has achieved the 11th consecutive RoSPA Gold award for continued excellence in Health & Safety. This coveted accolade has been earned by demonstrating excellence in the continued development and implementation of Health & Safety Management Systems that

not only exceed legislative requirements but also promote Health and Wellbeing through the company's continuous improvement programme. The company's ethos has provided a solid foundation that has shaped positive attitudes and high standards of Health & Safety throughout all operations and within our supply chain.

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.

Pirbright

Site Wide Critical Process

The Pirbright Institute (TPI) determined that the record information for a number of their existing facilities needed updating to better inform planned preventive maintenance activities as well as to facilitate effective remodelling and refurbishment of these buildings in the future. A part of this was to update their record documentation for systems designated as critical by visual inspections on site. The Austin Company were awarded the assignment for the first phase of TPI's requirements which covered the existing SAPO4 research buildings within the ISO Compound on the site.

The assignment involves surveying the critical systems within the existing building stock, reviewing and updating as-built drawings, working with system owners and equipment vendors to update O&M manuals and updating the overall building Description of Operations. The assignment utilised our in-house multidisciplinary team of architects, structural, mechanical and electrical engineers to complete the tasks efficiently.

Pharmaceutical Project

Orphan Drug Manufacturing

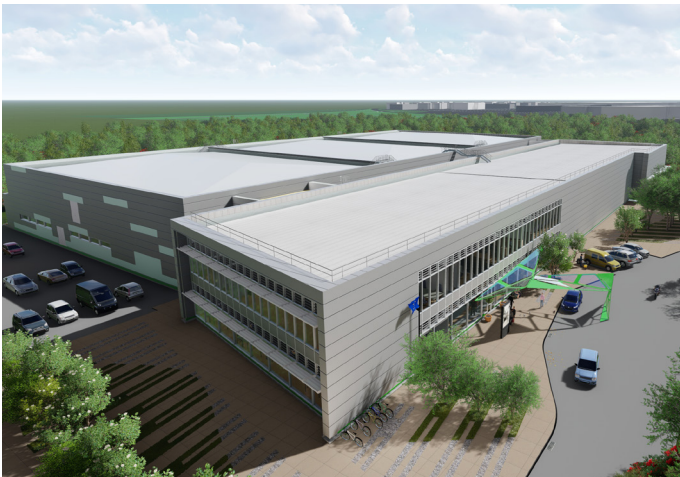
A North Asian Client engaged Austin to undertake a Feasibility & Concept design study (Step 1a) for their proposed European API manufacturing facility. This would allow them to increase capacity, provide resilience and uninterrupted global supply capability.

The new facility would manufacture recombinant therapeutic biopharmaceutical biologic drug substances in compliance with c.GMP regulations for Europe and USA markets.

On conclusion of the Step 1a study Austin's appointment extended to providing a Preliminary Design & Engineering Study (Step1b) to deliver a robust outline design with a +/-10% estimate and implementation programme.

The facility includes offices with ancillary areas, QC laboratories and warehousing with three manufacturing areas, totalling c.10,000m². The manufacturing areas are designed such that area 1 will be fitted out initially and areas 2 and 3 as subsequent phases.

The design process entailed detailed facilitated workshops in North Asia to gain an understanding of current manufacturing processes, to define the basis for the European facility. Based on these workshops the design was undertaken and concluded to meet the client's expectations.



The design scope entailed GMP review, stringent testing of people and material flows to ensure optimum and efficient production operations avoiding cross overs, defining requirements for local approval processes, access and maintainability assessment to demonstrate compliant access and servicing strategies. Early definition of such strategies is critical for such complex facilities for efficient operations and future maintenance.

The proposed site presented various challenges including:

- Ground conditions and marl soil below the ground surface. Exposing the Marl soil to the atmosphere risks causing ground heave.
- The site slopes on two sides with a drop of six metres to the rear right side. Our in-house multidisciplinary design team considered numerous options to develop an optimum layout to minimise excavation works and exposure of the Marl material.

The design utilised BIM authoring tool REVIT to further develop capabilities towards BIM level 3. In order to improve Austin's multidisciplinary team's estimating accuracy, material takeoffs were taken from the REVIT model.

University Challenge

"Detective" work

Our client advised us that their existing BSU unit was experiencing challenges in maintaining the environment to meet regulatory criteria.

Austin undertook the following works to investigate the causes which included:

- Desk top review of the O&M information and non-intrusive surveys of the facility and associated ventilation plantrooms.
- Reviewing operating parameters and comparing against original commissioning data, visual inspection of the condition of the plant and operating status. Making observations of those elements effecting temperature, humidity and air volume (air change rate) stability.

Austin's report extended to a series of recommendations for:

- Necessary rectification works of current installation and equipment and new installation works.
- Enhanced reporting procedures of parameters, conditions and rectifications undertaken by the maintenance team.
- Recommendations for enhanced control of temperature and humidity conditions and suggestions for energy efficiency improvements
- Economic considerations regarding rectification works versus new installation together with overall recommendations for improving the heating and ventilation system stability.

Onwards and Upwards

Another positive year of activities at Austin

It gives me great pleasure to report another successful year, progressing and concluding a number of prestigious and complex assignments, not only for existing but from new clients too. Our clients include Afton Chemicals, BPL, Barry Callebaut, GW Pharmaceuticals, GSK, Ipsen, Kings College, Piramal, Pharmaron, Royal Holloway, Sanofi, Syngenta, Thermo Fisher, The Pirbright Institute and University of Sheffield amongst others.

Our specialised knowledge as a single source multidisciplinary "one-stop-shop", allows us to provide robust technical advice with brainstorming concepts, detailed design, engineering and construction services which makes us a preferred and repeat provider of choice for many clients, big and small, in the market sector.

I am grateful to the Austin staff whose commitment and exemplary knowledge keeps moving our organisation onwards and upwards; in doing so, we elevate the industry standard too. I thank all our esteemed clients for their continued trust in us. Your support has helped build some unparalleled facilities both in the UK and internationally. This provides The Austin Company and its family the confidence to continually anticipate success in the future.

If you have any facility needs, present or future, or simply would like to explore our services, please call me personally on 01923 432 658. We are here to support you with any of your needs so please do contact us.



Prakash Davda, Managing Director