BEST IN CLASS FACILITIES

2017 / 2018
Introduction

Too often Clients request benchmarking information for what we consider to be the best automotive manufacturing facilities. Whilst we are able to provide an holistic approach to this benchmarking of peers, we firmly believe that Clients should focus on becoming the benchmark.

We consider the following factors to be key to creating the best in class or world class manufacturing facilities:

- Reducing lead times.
- Increasing speed-to-market of product.
- Cutting operating costs.
- Exceeding customer expectations.
- Managing the global enterprise.
- Streamlining outsourcing processes.
- Improving business performance visibility.

Through the work that we do we can influence each one of these key factors through our Programme Integration Model which supports Clients from inception of a business case for a new manufacturing facility, right through to start of production (SOP) / Job #1.

To create best in class facilities we focus on the following areas:

- Creating environments which support clients to become the employer of choice in the increasingly complex and competitive race for talent.
- Developing facilities that are optimised, yet flexible to enable them to be swiftly adapted in responding to business change and needs.
- Focus upon the whole life cost of facilities to enable business decisions to be made which focus upon maximising return on investment
- Creating facilities that are sympathetic to the local community in which they reside, though creating of holistic and sustainable solutions which not only create opportunities to optimise the operational expenditure (Opex) but also ensure that corporate, regulatory, and social objectives are maximised.
- Creating a competitive advantage that looks beyond standard approaches to allow products to be brought to market sooner.
- Developing facilities which look to continually improve the health and wellbeing of the people that are involved either in their creation, operation or decommissioning.

Adam Dormer
UK - Best in Class Facilities Lead
Our Automotive Expertise

The automotive sector is under intense pressure to produce more vehicles at lower cost while juggling the additional demands of market competition and shifting consumer behaviour. From plant to showroom, the manufacturer of today must respond by developing holistic and environmentally sound strategies for the entire production to sales journey.

In emerging and established markets alike, the automotive sector is under intense pressure to produce more vehicles at lower cost. Furthermore, market competition is growing and consumer behaviour is rapidly evolving. Quite simply, manufacturers need to respond. In order to succeed, companies must now consider the entire production to sales journey from the very outset, from plant to showroom.

Arcadis is helping our Clients to create real value by responding to rapidly changing markets.

We help our Clients in markets across the world to create strategies that cover entire manufacture and sales processes. Our experts identify efficiencies and opportunities that support business strategy, delivering direct financial value while minimising emissions and using fewer of the planet’s precious natural resources.

We focus on the following areas:
Creating Environments that foster client ambition to become the “employer of choice”

Why is this important
As the world of business continues to change and evolve, the skills and knowledge that are required to create the automobiles of the future move on as well. Therefore, motivating and inspiring teams to innovate and create better ways of delivering products to market requires them to work within inspirational surroundings. The Automotive sector must embrace the change of creating autonomous vehicles, alternative fuel solutions, embracing “Industry 4.0” and the “Internet of Things”. The skills, knowledge and insight required is significantly different from the skills required today. Thus attracting and retaining the right talent is key to most businesses ongoing success.

Client Need
- Facilities that are enabled to deliver the changes sought to business operation.
- Environment which support, attract and retain talent through creation of inspiring places.
- Raising the wellbeing of teams and individuals in order to have a direct impact on productivity of output and ability to innovate.
- Creating places people proud to work within to increase attendance and retention.
- Creating a much stronger connection with team members aligned to the vision and brand.

What we do
- Understand the client vision to ensure that Programmes/ projects are aligned to these to create compelling facilities that truly excite and inspire.
- Taking a benefits lead approach to establishing priorities and remaining focused on objectives is key.
- Bring innovation from across industry sectors to help clients take a best-in-class approach that we know works enabling them to stay at the forefront of the race for talent.
- Design and create environments that inspire and spark innovation and encourage collaboration.
- Design the employee journey to ensure it is simple and clear through touchpoints, interface mapping to establish adjacencies and process considerations.

Outcomes we deliver
18% Increased employee performance and productivity
20% Decrease in employee turnover
18% Increase in customer satisfaction
35% Increase in employee efficiency which supports an overall improvement of outcomes delivered both for business and customers
Proof Point

Our Approach

We agreed a two stage approach with the client for setting the cost to deliver the new facility. This enabled us to bring on-board a specialist contractor who could help develop and finalise the design and bring to the table current construction techniques with latest material/products that were commensurate to this project. By taking this approach we were able to not only secure a very competitive cost for the works but also create a facility that was both flexible and considerate to the end user needs. The outcome was a flexible facility that considered the operational needs giving the users a great place to work.

Our Approach

One of the clear objectives for this project was to create something different that engaged and enthused the client workforce in order to be able to drive staff engagement, raise retention and engender innovation.

One of our first tasks was to therefore discard previous working assumptions, client directives and or previous accommodation standards in order to help the client 're-write the rule book'. We considered and integrated Smart Building technologies such as active parking management, hot desk management, digital room scheduling in order to drive efficiencies such as 30% saving on parking time, 33% energy efficiencies against existing buildings and 40-60% increase on meeting room utilization. We have attempted to future proof the building in order that as new, emerging technologies become more available the building can incorporate these and adapt further and continue to evolve/improve. The space created will harbor new ways of working, increasing collaboration and being the epitome of efficiency.

CLIENT
Volvo Cars

PROJECT
Production Unit P1X in Ghent, Belgium

BENEFITS
- Created a facility capability of producing the S40 and V50 models.

Our Approach

Our role was to design the new facility for Volvo. The objective was to create a fully flexible facility that was able to produce both models the client was looking for, but also meet with the needs of the end users so as to create an effective/efficient place of work. We undertook extensive end user and industry best practice working groups. We called upon the best of our in-house design team and worked with the best team on the client side in order to fully specify a truly innovative facility that incorporated the latest production line technologies and equipment. The outcome was a first class facility that both the client team and we are proud of.

CLIENT
JLR

PROJECT
Body in White – Solihull, UK

BENEFITS
- A multifunctional facility that can be easily adapted between a body shop and an assembly shop with little additional cost.

Our Approach

Our role was to design the new facility for JLR. The objective was to create a two stage approach with the client for setting the cost to deliver the new facility. This enabled us to bring on-board a specialist contractor who could help develop and finalise the design and bring to the table current construction techniques with latest material/products that were commensurate to this project. By taking this approach we were able to not only secure a very competitive cost for the works but also create a facility that was both flexible and considerate to the end user needs. The outcome was a flexible facility that considered the operational needs giving the users a great place to work.

CLIENT
JLR

PROJECT
Technology Park, Coventry, UK

BENEFITS
- 30% time saving on parking.
- 33% energy efficiency saving.
- BREEAM excellent rating.
- 40-60% better utilization of meeting space.
Developing facilities that are optimised, yet flexible to enable them to be swiftly adapted in responding to business's changes and needs

Why is this important
In order to enable manufacturers to quickly respond to changes in the market place and/or to their own business needs so that the cost of change and the time it takes to implement is minimised by virtue, continually maximizing manufacturing output.

Client Need
- Efficiency of size & footprint to reduce cost expenditure
- A flexible asset that can respond to business needs and changes at the lowest possible cost/the fastest possible pace.
- Greater utilisation of land and associated assets to optimize the balance sheet.
- Delivering projects quickly to minimize down-time or increase speed to market where we can to maximize revenues.
- Adapt existing facilities, not simply always build new in order to maximize existing assets and minimize expenditure.

What we do
- Ensure infrastructure is as flexible as possible to adapt to as many future potential solutions as possible.
- Develop strategic property strategies which drive better asset performance and utilisation.
- Utilise our knowledge and experience to optimise project delivery timelines through use of our best in class toolkits.

Outcomes we deliver
- Environment that harbours quality
- Optimised expenditure
- Zero waste
- Zero disruption to manufacturing
- Zero white space
Our Approach

CLIENT
JLR

PROJECT
Press Shop Halewood, UK

BENEFITS
- Maintained a live facility throughout.
- Extended/ altered existing avoiding new.
- Construction Management approach brought cost and time saving.

Our Approach

CLIENT
BMW

PROJECT
Body in White, Oxford UK

BENEFITS
- Job #1 protected with first item leaving production line as planned.

Our Approach

CLIENT
JLR

PROJECT
Workplace Roll Out Gaydon & Whitley, UK

BENEFITS
- Helped client to optimise use of existing workplace and raise utilisation from c50% to c85%.
- Avoided c£120M of capital investment (client original budget for new, off site facility costs).
- Change managed c5500 people in 9 months delivering refurbished facilities, new IT and cultural training.

Our Approach

Introduced a Construction Management approach to help speed up the project and divide the works into the critical packages. In so doing we were also able to drive great competition through the tender process and deliver the scheme under the client’s budget. Careful planning of the project enabled us to propose a phased approach that enabled the existing facility to be kept live, maintaining manufacturing output. The project was concluded to plan with a completion achieved one week ahead of schedule.

Identifying the need for a part new build, part demolition and refurbishment solution we created a phasing plan and approach that enabled the client to maintain manufacturing production throughout the scheme. Major elements of cross over works were completed during summer and winter shut down periods to de-risk existing operations. A Construction Management approach delivered a tighter grip on the programme and control of the costs. A combined client/ consultant team was established on-site which worked in unison, playing to each other's strengths. Existing assembly lines altered facilitating a simple adaptation that enabled a new model to be manufactured with optimal capital outlay.

Taking a programmatic view we set-up and managed a joint client/ consultant team through a ‘transformational project’ approach which focussed on the benefits and outcomes the client was aiming to achieve through a fresh and modern way of working. We undertook stakeholder mapping and developed a robust communication plan that, through targeted events/ literature/ training helped to coach the workforce and help them prepare for new ways of working. Deployment of IT and dedicated training events were scheduled in-line with the master programme working on a just-in-time approach which reduced the requirement for vast equipment storage and or excessively large training events where messages can get lost. Through competitive procurement of construction and IT packages we delivered the project circa 8% under budget which facilitated the introduction of additional areas/ buildings and bringing these into scope for no additional outlay to the client.
Focussing upon the whole life cost of facilities to enable business decisions to be made, which focus upon maximising return on investment

Why is this important
Physical assets (facilities) are long term and costly investments. When incorrectly planned/ executed business can spend considerable funds on their, property assets, often revisiting previous decisions and having to re-invest further. It is imperative that owner/occupiers consider their expenditure holistically in order to not see excessive and or undesired costs downstream.

Client Need
- Reduce the total operational cost of portfolios and estates.
- Reduce the amount of capital investment required to meet the business need.
- Work with people that have first hand experience of global cultures, standards, working practices and regulations who can apply these to investment advice and create optimal solutions.
- Being able to replicate the same delivery outcome (standard) anywhere in the globe in order to create brand identity, facilitate ease of employee mobility and create familiarity for customers.
- Needing to develop in new, possibly unknown, territories and having partners who are not only local but also have delivery experience being able to de-risk the project and provide assurance.

What we do
- Provide total life costing for facilities so clients can see the impact of each design decision they make.
- Portfolio assessment and maintenance strategy planning to identify areas of expenditure that can be optimized.
- Redesign of facilities management contracts/ approaches together with re-procurement of supply chains where cost reduction opportunities have been identified.
- Apply Benefits Management in Project and Programme delivery to ensure that all expenditure is aligned to the future vision and creates the desired impact.
- Category management to identify and where necessary reproduce package contracts where capital expenditure opportunities exist against peer group, identified through benchmarking exercises.
- Hold a live, global, cost database that allows us to provide accurate should cost anywhere in the world.

Outcomes we deliver

- Clear guidance for clients setting cost targets for the constituent parts of projects/programmes
- Setting of achievable cost outcomes for projects/programmes at the outset allowing clients to make long range investment decisions
- Optimum delivery and investment decisions made by our clients based on the information/recommendations we provide
- Lowest possible end to end costs, considering whole life for our clients
Proof Point

Our Approach

Utilising our Automotive Bench tool (Our global cost database) we quickly established a cost framework for the project and an order of cost that allowed the client to make early design and investment decisions that lead to successful project outcomes.

CLIENT
BMW

PROJECT
Plant 19.10 NEX project, China

BENEFITS
- 20% cost saving against similar facilities client has delivered globally.
- A pre-tender estimate that was within 2% of the overall cost.

Our Approach

Harnessing the power of our global team we initially undertook a global study on the most likely location a new 350,000m² facility could be constructed and efficiently operated. Once the target location had been set we provided an integrated programme approach that facilitated not only full cost management in multiple currencies but also included a bespoke procurement model to ensure best value with quickest possible start on site with no diminished quality. Our team was a combination of UK and Slovakian resources working flexibly and migrating from the UK to Slovakia as the programme necessitated creating a seamless delivery for the client in what was unchartered territory for them.

CLIENT
JLR

PROJECT
Darwin, Solvakia

BENEFITS
- Guiding the client in delivery of significant investment in new territory.
- Co-located team with UK and Slovakian presence being when and where client needed us.
- Managed multiple currency cost plan.
Creating facilities that are sympathetic to the local community in which they reside, through creation of holistic and sustainable solutions

Why is this important

With continued pressures around global warming and the implications of this, manufacturers are under close scrutiny to deliver against heightened regulatory standards. Owner occupiers also wish to raise the bar further to create greater marketing ploy solutions and attract not only more consumers, but also often engage the hearts and minds of workers who strive to work for environmentally considerate employers.

Client Need

- To ensure regulatory compliance is achieved from an environmental perspective, often raising the bar beyond this level.
- Producing quality products with minimal material, creating less waste and in so doing, minimising environmental impact.
- Creating sustainable assets that not only achieve accreditation at their birth, but continue to embrace change and get better with the development of new techniques.
- Both upstream and downstream responsibilities are met in respect to CSR.
- Built assets being recycled, where possible.

What we do

- Develop strategies for clients that see that their corporate strategies are met or enhanced.
- Through looking at the car production process through a different lens we not only create sustainable ways to develop facilities, we also positively impact the way they are operated.
- OpEx optimisation through early consideration of how facilities will be operated (we don’t just look at the initial capital outlay and not consider the future operation costs).
- Provide BREEAM and LEAD advice/ accreditation end to end in order to be able to see client’s deliver against specified targets.

Outcomes we deliver

Corporate objectives achieved through careful planning of physical assets

Deliver commercial efficiencies in operation through greater consideration of future use/ running of the facility at the design stage

Creation of a sustainable estate through either creation of new and or remodelling of estates in a sustainable/ environmental way via our industry recognised thought leadership
Identified the requirement for a new set of workplace standards that not only facilitated the repurposing of the workplace reducing the need for additional space (the client’s original belief) but which also helped to commence the journey of transforming the culture of the business towards a leaner, more efficient, innovative organisation (which the client wished to be).

We achieved this outcome through the provision of Programme, Project and Commercial Management services that provided support to and around the client’s existing internal team ensuring that a holistic solution was achieved which levered the best of what the client team could offer with backfilling around resource/ capability gaps by ARCADIS.

Our Approach

To address the client’s immediate issue at day one around time pressures, the project team set about creating a holistic master programme that considered not only the design and installation of the initial capital investment, but integrating the equipment installation and sequential process of operational readiness. The outcome of this approach facilitated an overall quicker project delivery timeline.

The integrated Noise, Vibration and Harshness facility will raise quality standards to a new benchmark, with the added benefit of significant reduction in manufacturing test process waste with consequential reduced down time which will generate actual cost benefits to the client in quality and production output. Integrating the test facilities to one location provides significant environmental benefit of reducing the amount of vehicular traffic locally.

Our Approach

Damson Parkway is a dispatch facility for Jaguar Land Rover adjacent to residential housing. The facilities were constructed in close consultation with the local community. Local consultation meetings with stakeholders and residents were maintained during the works including mailshots locally. The resultant design needed to reflect the same scale as the local housing. The existing site was agricultural land in green belt and required respecting the existing ecology with mitigation measures factored into the programme for the works to ensure successful delivery on time. The resultant facility was constructed with sustainable products and the services were designed to not project beyond the building envelope.

Our Approach

Avoided c£120M of capital expenditure.
Commenced journey of transformational change.
Developed new workplace standards.
Creating a competitive advantage that looks beyond standard approaches to allow products to be brought to market sooner

Why is this important

Revenues generated from the manufacturing process are significant. Maximising the amount of sales and bringing forward the commencement of revenue can make a significant impact to business’s balance sheets and or the business case of a particular investment. Early release of a new product may also contribute to manufacturers staying ahead of competition and maintaining or growing market share.

Client Need

- To deliver capital investments swiftly and quickly with completion achieved when planned. In order to align to the promises made in the business case and their customers.
- Securing Job #1 on the production line so that planned revenues and or product launches are achieved on-time.
- Maintain market share and or seek competitive advantage over competitors.
- Maintain regulatory compliance with minimal business impact/disruption.

What we do

- We think differently when planning and executing our projects. We look for ways to integrate/overlay operation readiness and remove, where possible, sequential activities to bring forward overall completion.
- Consider capital investment against rate of return in order to create the optimum level of expenditure for our clients.
- Ensure all of our projects and programmes are run on sound principals with strong governance and controls so that simple mistakes are eradicated and all opportunities are maximised.
- Early identification of the critical path and establishing ways to maximise this and or the opportunities that exist to bring forward where possible. We do this through robust programme planning and challenge in the early stages to see that the most appropriate decisions are made.
- Consider LEAN processes and construction techniques to bring forward an earlier completion while not creating any additional cost or risk to the project.

Outcomes we deliver

- Optimised schedules removing all waste and bringing forward (to the earliest possible date) the point of production commencement
- Robust business cases with clear and demonstrable ROI
- Assured outcomes that deliver to business needs
- Delivery milestones that are protected and achieved
- Aligned capital delivery with operational readiness creating optimum schedule completion and safeguarding Job #1
Our Approach

Created master schedule at inception that identified the critical path for the project and the associated dependencies. Through challenge of the norm we were able to realize significant time savings by overlaying the operational readiness stage of the development and integrating these with the capital delivery (a first for JLR).

A separate team was deployed for the operational readiness development to work in-parallel to the capital delivery team in order to create sufficient focus and also raise the required challenge to the capital delivery team while also bringing industry knowledge and operational expertise. This team was a blend of ARCADIS and client resources to make sure that we had the correct level of knowledge, expertise and experience that was needed to generate the best possible outcome.

Our Approach

We established a traditional project programme and set down when the project end date could be realistically achieved. This set the baseline for the scheme and gave the client a realistic view of what could be achieved. We then set about dividing the project into a series of phases that enabled the client to bring forward the elements of the project critical to them allowing early occupation of part. This facilitated the early relocation of other facilities which freed up space for the client that could be put to better use and created a more effective real estate solution for JLR.

Our Approach

ARCADIS were appointed as multi-disciplinary design team for the extension of the existing facility at Rolls Royce Motor Cars at Goodwood. The project faced a challenged budget with a significant desire the deliver an early project completion. ARCADIS worked with the client design manager and lead engineer to provide an alternative programme methodology that extracted the true critical path from the project and focussed upon this. We designed a construction management approach with two principal trade packages (shell and core + fit out) that facilitated the significant shortening of the programme without accelerating and or squeezing design, procurement and or construction periods giving the client the ultimate solution to their programme challenge.

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Developing facilities which look to continually improve the health, safety and wellbeing of those involved throughout the asset lifecycle

Why is this important
Accidents and or near misses at work are a significant contributors to loss of productivity and accordingly place strain on the bottom line. In extreme circumstances significant injury and or loss of life sometimes prevails which creates impacts that are beyond merely financial. Removing as many hazards as possible and minimising accidents in the workplace raises productivity but also aids to engage the workforce through a proactive safety approach. This will also link to staff engagement and helping to be an employer of choice.

Client Need
- Achieving the highest possible health and safety record across their facilities to increase productivity and minimise human impact/ delay.
- Being able to adapt existing facilities to achieve current day compliance, meeting the safety standards of the modern world.
- Achieve wellbeing of staff and associates to enhance attrition, engagement and retention as well as providing an attractive proposition to customers both during construction projects and in operation of the facilities.

What we do
- Provide behavioural based coaching to client staff and contractors alike to address the human factors which sometimes contribute to accidents in the workplace.
- Strategic health and safety planning assessing owner occupier’s Health and Safety policies from the ground up to help mitigate issues and introduce streamlining and best practice where possible.
- Portfolio and programme health checks where capital delivery is already in-place to help identify potential opportunities for improvement/ streamlining or simplification.
- Provision of project level health and safety advisors to help make sure that construction delivery is achieved in the most effective/ efficient way possible, in adherence with local rules and regulations.
- Site auditing and compliance checking for live facilities for proactive intervention planning.

Outcomes we deliver
- Reduced accident rate in live facilities and on construction sites
- Productivity increased through reduction in downtime
- Insurance premiums reduced
- Health, wellbeing and engagement of workers increased
- Heightened corporate responsibility and Health & Safety profile
Proof Point

Our Approach

We took a proactive approach, integrating Health & Safety into the design process from an early stage enabling us to not only influence the construction phase and the manner in which site safety was considered, but we were also able to make a number of interventions that made the operation safer and more assured.

CLIENT
JLR

PROJECT
Assembly Shop, Solihull UK

BENEFITS
- Zero reportable accidents during the construction phase.
- Created an operational environment that became known as exemplary upon which future facilities have been modelled.

CLIENT
BMW

PROJECT
NEX Project, China

BENEFITS
- Delivered 5,000,000 incident/accident free man hours during the construction phase of this significant new facility.
- Received the highest BMW safety award ever issued to one of their consultants.

Our Approach

Early integration of our safety first approach into the construction process, holding workshops with the client team and constructor to set down the requirements for the build process. We carried out spot checks during the construction phase and rigorously implemented our Health & Safety plan in unison with the client and contractor teams to deliver a site of the highest safety.

CLIENT
Ford

PROJECT
Assembly Plant Southampton, UK

BENEFITS
- Clear and effective roadmap for CDM compliance Streamlined/simplified process.
- Created a tool for repeat use in future.

Our Approach

Our team of expert safety advisors worked closely with Ford Land of Britain, Ford Europe and Ford USA to ensure that client corporate procedures were not compromised, whilst ensuring alignment with CDM 2015.

We generated a roadmap for the project, identifying the points of intervention along with model definitions/examples of what the outcome should look and feel like making the client role easier for them.

Key to the success of the overall project was the effectual “safety buy-in” of the multi-disciplined contracted services associated with the project.
About ARCADIS

Arcadis is the leading global Design & Consultancy firm for natural and built assets. Applying our deep market sector insights and collective design, consultancy, engineering, project and management services we work in partnership with our clients to deliver exceptional and sustainable outcomes throughout the lifecycle of their natural and built assets.

We are 28,000 people active in over 70 countries that generate more than €3 billion in revenues. We support UN-Habitat with knowledge and expertise to improve the quality of life in rapidly growing cities around the world.
Clients who we are currently working with to develop Best in Class Facilities across the globe: