ESP

SPECIALISTS IN LIFTING SOLUTIONS

COMMITTED TO EXCELLENCE
IN ENGINEERING LIFT SOLUTIONS

CUSTOM SOLUTIONS RANGING FROM INDIVIDUAL COMPONENTS TO FULL TURNKEY LIFT SYSTEMS

ESP Lifting Systems

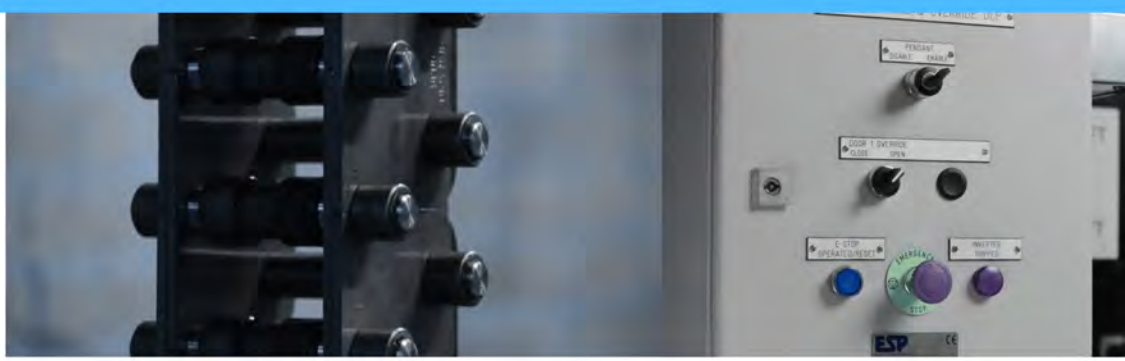
Specialists in Lifting Solutions

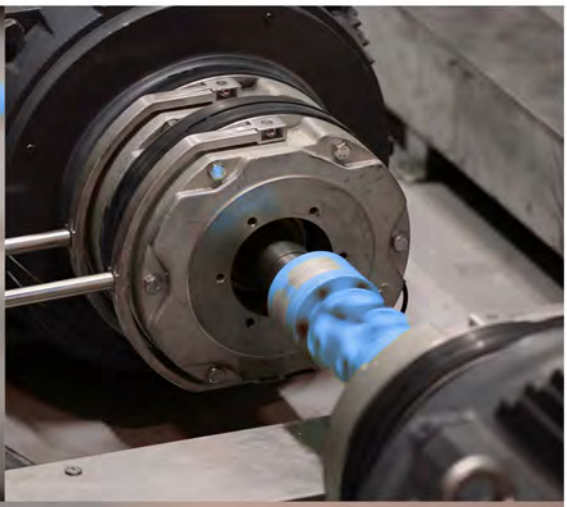
Engineering Systems & Projects Ltd (ESP) are specialists in a wide range of push and pull, horizontal and vertical linear rigid chain lifting solutions.

With ESP's reputation for the use of cutting edge technology, years of experience, high quality expertise and commitment, we believe we are the right choice for you to achieve your dynamic needs.

ESP is uniquely placed to design and provide complete systems and equipment for various lift applications including:

. Special Design Lifts and Lifting Systems
(Bespoke lifts for any application where a conventional lift does not fit)
. Moving Rooms
. Moving Roofs
. Moving Walls
. Flexible Venues and Stadia
. Entertainment and Performance Lifts
. High Capacity and Special Purpose Lifts
. Goods and Car Lifts
. Construction Lifting Systems
. Building Maintenance Unit Lifts

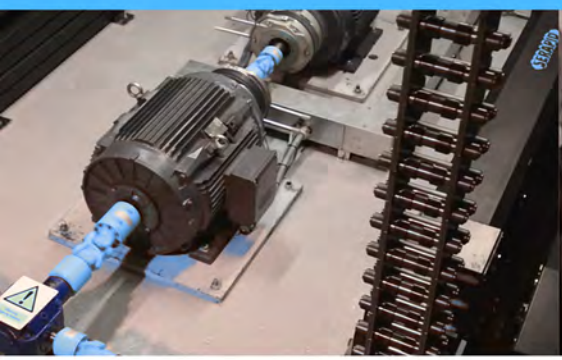


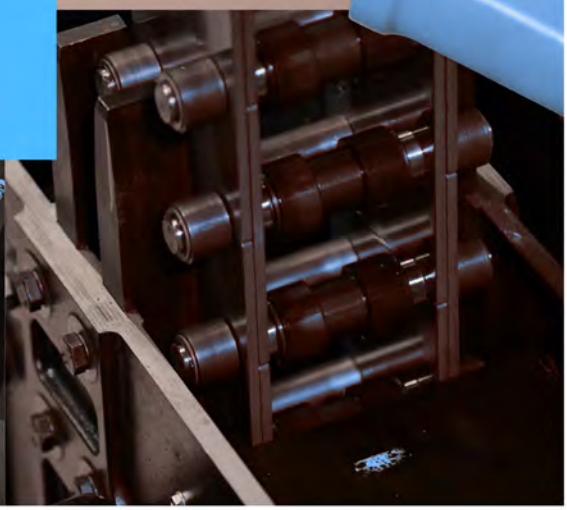


ESP not only provide systems for industrial solutions but can also cater for a wide range or leisure and entertainment applications. These include stage lift and scenery solutions utilising state of the art technologies. Typical applications include:

. Theatre and Stage Applications
. Platform Movement Systems
. Multiple Lift Systems
. Large Load and Vehicle Lift Systems

"Rigid Chain Tech"





Regeneration of Goods Lifts at IBC Vehicles, Luton

Engineering Systems & Projects Ltd offer bespoke goods lift systems ideal for many applications, whether it's for moving precious art or stillages of steelwork from 1 to 110 Tonne lifting capacities. ESP Ltd have the capability to offer a turnkey solution. An example of this is the 10 Tonne goods lifts at Vauxhall, Luton which replaced the existing hydraulic lift having become unreliable. ESP Ltd designed, manufactured, installed and commissioned the two new lift systems as a turnkey project.

To maintain the requirements of production the lifts were replaced individually. ESP managed to strip-out, install and commission each lift over a six week shutdown. The strict timescale meant that there was a significantly reduced impact on the site and production targets were maintained throughout the project.

Both lifts were fitted with fully regenerative drive systems for energy efficiency, calibrated load cells for overload protection and local operator screens for error diagnosis and system status. Both systems were designed with SERAPID LinkLift rigid chain lifting columns which have mechanically synchronised drive trains each with two motors and a pair of independent brakes.

Since the regeneration of the two goods lifts their reliability has been commended by the plant manager and operators on the site.

See our Video

IBC Vehicles Limited is a British automotive manufacturing company based in Luton, Bedfordshire and a subsidiary of Vauxhall, itself a wholly owned subsidiary of Opel Automobile GmbH.

Its principal operation is an assembly plant located in Luton, GM Manufacturing Luton, which currently produces light commercial vehicles sold under the Opel and Vauxhall marques.

Vauxhall Motors Limited is one of the oldest established vehicle manufacturers and distribution companies in the United Kingdom and has its headquarters in Luton, Bedfordshire, England.

Due to old and unreliable hydraulic goods lifts slowing down production capability, Vauxhall Luton decided to regenerate their two goods lifts.

Portable Audience Seating at O2 Arena, London

The O2 Arena hold events throughout the year, some of which require enclosed seating around the full 360° space for events including ATP world tennis tournaments, NBA global games, boxing, the world cup of gymnastics and UFC championship fights, that all utilise the centre of the arena.

The O2 Arena required portable seating units for these events for ease of installation and speed when changing between performances. Prior to this, seating was erected manually taking an inordinate amount of time to erect and remove, prolonging the period of time between events.

To overcome this issue ESP and SERAPID designed and manufactured 7 seating units with on-board lifting systems which can be both manually moved into position and erected quickly. These units have seating modules mounted to them and fit into a shaped end around the stage end of the arena and once in position can be lifted using a state of the art control system utilising SERAPID LinkLifts.

When ready to lift, our portable control system is wheeled into place, plugged into ports on the seating unit and using a pendant the stands can be raised up to the height of the pre-existing audience seating. The centre unit is able to be raised even further to allow other seating modules and equipment to pass underneath via the main entrance.

The control system is portable and has an HMI for alarm diagnostics and operator guidance. All of the seating units were fully assembled externally prior to installation such that minimal disruption during site construction was achieved.

See our O2 Video

The O2 Arena, referred to as North Greenwich Arena in the context of the 2012 Summer Olympics and 2012 Summer Paralympics, is a multi-purpose indoor arena located in the centre of The O2 entertainment complex on the Greenwich Peninsula in south-east London. It is named after its primary sponsor, the telecommunications company O2.

The O2 Arena is the world's largest building by measure of floor space, and has the second-highest seating capacity of any indoor venue in the United Kingdom, behind the Manchester Arena, but took the crown of the world's busiest music arena from New York City's Madison Square Garden in 2008.

The O2 is the world's most popular music and entertainment venue. It is home to an array of world-class experiences & attractions. In addition, the O2 is also home to O2 indigo, corporate hire spaces; an 11-screen Cineworld complex; Up at The O2 – an experience that allows visitors to walk across the roof; Brooklyn Bowl - a 12-lane bowling alley, 800 capacity live music space and 130 cover restaurant; interactive experiences at Sky Studios and the Nissan Innovation Station, as well as The Avenue, which features 26 bars and restaurants.

heatre Stage Lift IMAX Science Museum

Contained within the Science Museum London in South Kensington is an IMAX film theatre at the forefront of cinematic technology.

To enable the science museum to utilise this space for live performances a versatile stage was required which would need to be hidden during film shows and raised into position during the live performances and presentations.

ESP Ltd worked with SERAPID to design an 11.5 x 6 metre stage lift with electrically interlocked removable hand-railing.

The stage is able to be raised from a base height of 530mm to a height of 2.6m to bring it level with the pre-existing auditorium seating level.

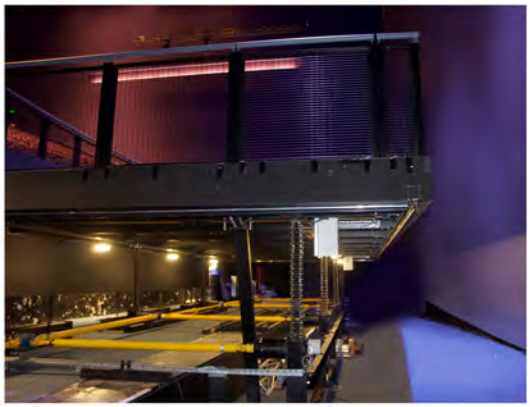
Safety interlocks prevent removal of the hand rails and entry to the auditorium during operation. The project was undertaken during one of the busiest periods for the science museum throughout the summer Olympics of 2012.

The installation of the stage has increased the auditorium's usability and versatility since being commissioned.

See our IMAX Video

"This is by far the most technologically advanced piece of equipment within the science museum."

- Statement from the project team



Striving to be the best place in the world for people to enjoy science, the Science Museum's world-class collection forms an enduring record of scientific, technological and medical achievements from across the globe.

The Science Museum is part of the Science Museum Group, a family of museums that also includes the National Railway Museum, Museum of Science and Industry National Media Museum

IMAX is an entertainment technology company, specialising in motion-picture technologies & large-format motion-picture presentations. Leading the way in immersive theatre experiences since 1968, a culture of innovation is at the very core of IMAX. From the introduction of stadium seating, to developing the highest-resolution camera in the world, to their laser projection technology and partnerships with the world's best filmmakers, there is no one like IMAX. More than 450 million people have been entertained in IMAX theatres since 1970. They have more than 1000 IMAX theatres in more than 66 countries around the globe.

Art Truck Lift at AMOREPACIFIC, Seoul

AMOREPACIFIC has build a new head quarters in Seoul, South Korea. The artistically and architecturally innovative building not only houses Amore's business HQ, but also has several art exhibition halls below ground. As part of this new building Amore Pacific had the requirement for an art truck lift which would enable full trucks of art to be transported from ground level to basement levels -1 and -2 below ground.

ESP Ltd, alongside SERAPID UK and France, developed a fully functional lift system which was designed to not only lift the trucks weighing up to 40 Tonnes, but also lifted the ground level roadway, to allow truck access and to hide the lift when not in use. The maximum lifting load was 120 Tonnes.

At each basement level the truck was able to be offloaded at both ends of the lift and at the side via special side opening doors.

The lift system uses weight controls to prevent overload of the lift and intercommunication systems between all floors.

See our Video

Scan the QR Code for More Information.

AMORE PACIFIC

AMOREPACIFIC, Korea's largest beauty company, occupies a site in the centre of Seoul, Korea.

Their headquarters was designed by David Chipperfield Architects as a single clear volume, with large urban openings and a central void. In the middle of a bustling downtown landscape, the building strikes a bright, open figure.

The AMOREPACIFIC HQ took three years to complete and opened in 2017.

The firm described the building as "abstract and gestural", with hanging gardens that provide dramatic views over the city and the mountains in the distance.

The design echoes aspirations of mediating between local and global, private and public, collective and individual, formal and informal. Laurian Ghinitoiu captures the identity of this dynamic headquarters.

Lift and Revolve System at the McLaren Technology Centre, Woking

The luxury sports car manufacturer and F1 racing team McLaren, built a state of the art manufacturing and development centre in Woking, England.

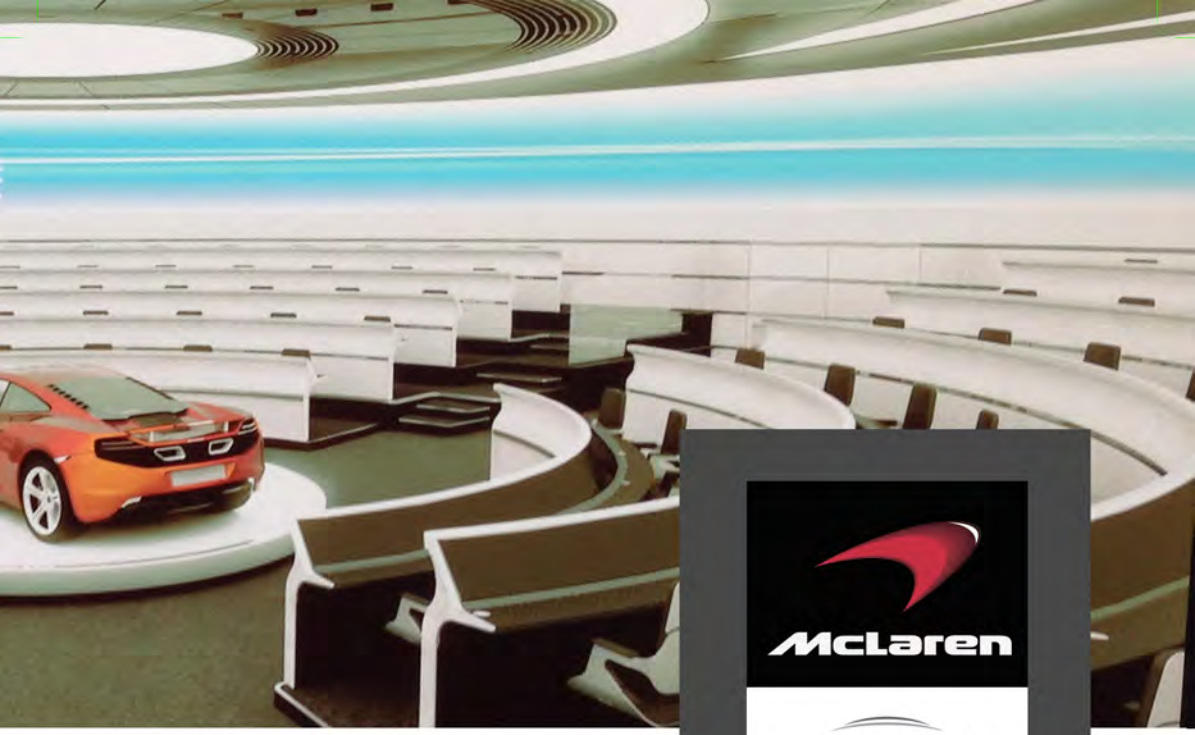
An extension to this development included the design and construction of the McLaren Technology Centre. This technology centre consists of state of the art media and presentation suites, at the centre of which was a requirement for a circular lift and revolve system.

This system is driven by servo controlled motors. Predetermined revolve speed and lift positions can be requested by the bespoke motion control system developed by ESP, which is able to interface seamlessly with the media suite.

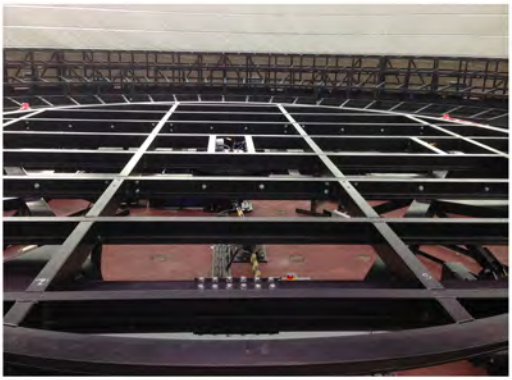
The lift and revolve stage system ESP designed and installed, in conjunction with SERAPID, acts as a central platform in the circular media suite. It is able to be used to display not only new production models but also the un-veiling of both concept and Formula One racing cars as well as being used to host presentations and conferences.

See our Video

ESP managed to design, manufacture, install and commission the entire system within 10 weeks.



McLAREN
THOUGHT LEADERSHIP CENTRE



The McLaren Technology Centre officially opened in 2004 and a McLaren Production Centre was founded in 2011. The two facilities are connected by a subterranean walkway with the MPC being built partially underground to minimise its presence. Designed by Lord Norman Foster, the MTC is an embodiment of the company's design and engineering expertise.

Situated on more than a hundred acres, the MTC curves around an artificial lake that helps cool the building and the adjoining wind tunnel which is used for testing aerodynamic parts and set-ups. Facilities include design studios, laboratories and testing and production facilities for both McLaren Racing and Automotive, a cafeteria, a fitness centre and swimming pool.

The McLaren Technology Centre Boulevard also houses over 50 years of McLaren cars, starting with the 1929 Austin 7 Ulster in which McLaren won his first race in 1954. MTC is also home to over 500 McLaren Racing Trophies, the majority of which come from podium place finishes in F1 with the remaining consisting of a mix of Indycar, Can-Am and off-track awards.

Stage and DDA lifts at Burberry Regent Street, London

In 2010 Burberry started the architecturally remarkable regeneration of the grade 2 listed building, originally built for the Prince Regent in 1820, into their brand new flagship store in Regent Street London. As part of this redevelopment ESP were commissioned to install a DDA lift and a stage lift which were to form part of the central focal point of the store.

The stage lift was designed to have a dual purpose. When not in use it formed part of the show room floor, but when required for fashion shows and performances would automatically rise up out of the floor to various heights. To allow access when raised, steps automatically appear at appropriate levels.

The stage lift was fully installed and comissioned by ESP within 1 week.

The DDA lift had a requirement to be unobtrusive. To overcome this issue the DDA lift was designed to be stowed at a low level which sits flush with the upper floor, at this level the lift is fully hidden. The lift car is made from toughened glass with an architectural bronze frame.

Scan the QR Code for More Information.

BUSINESS MODEL: A DISTINCTIVE GLOBAL LUXURY BRAND

The Company designs, develops, manufacturers and sells products under the Burberry brand. Product design and development are centred in Burberry's London headquarters. Fabrics and other materials are bought from, and finished products manufactured at, both Company-owned facilities in the UK and through an external supplier network, predominantly located in Europe. Creative and marketing content and programmes are developed internally to engage and connect the brand and its products with consumers. Burberry products are sold globally through its stores and online at Burberry.com, as well as through third-party wholesale customers, both offline and online. In a few selected areas, Burberry uses the product and distribution expertise of licensing partners. These activities are executed by a global team of almost

Luxury Stage Lift at Annabel's Night Club

Annabel's is the most prestigious private members club in London. The club recently relocated to 46 Berkeley Square, Mayfair, London. The "New" Annabel's was created after an ambitious and unprecedented civil refurbishment of the old building including a new basement nightclub. Within the nightclub Annabel's have created the perfect blend of opulence and usability. As with any nightclub the centre point is the dancefloor and here Annabel's wanted to do something different and more innovative. The remit given to ESP was to create a dance floor and performance stage system that was easy to move and allowed maximum flexibility.

ESP's solution was a three-stage system with the outer lift/stage allowing multiple configurations to include a sunken dancefloor, flat dining area, raised single stage and extended raised stage, thus allowing the client to cater for any event.

The installed three stage system is controlled via a control system utilising a graphic operator panel displaying both the lift status and alarms. Each position/scene can be preselected and easily moved into position by their trained operators utilizing a remote pendant.

The stage system has proven to be a success and is used regularly.

Scan the QR Code for More Information.

Annabel's is a nightclub, located at 46 Berkeley Square, London.

It was founded by entrepreneur Mark Birley and named after Lady Annabel Vane-Tempest-Stewart, his then wife.

Annabel's is a members-only nightclub catering to an exclusive clientele, including the Prince of Wales, the Duchess of Cornwall, Princess Anne, US President Richard Nixon, Aristotle Onassis and Frank Sinatra. In 2003, the Queen visited the club and it is thought to be the only nightclub the queen has ever attended.

Annabel's has earned a global reputation founded on superb service, exclusive ambience, first-class cuisine and unparalleled entertainment

Entertainers who have played there include Tina Turner, Ray Charles, Ella Fitzgerald, Diana Ross, Bryan Ferry and Lady Gaga.

The sumptuous interior which was originally designed by Birley and designer Nina Campbell, has since been updated by Birley's daughter, India Jane, but the paintings from Birley's collection remain.

Rooftop 26 Tonne Building Maintenance Unit Lift System, Canary Wharf

As part of the expansion to the Canary Wharf skyline the new skyscraper BP4 was constructed by the Canary Wharf Group.

The architect who designed the building called for the rooftop to be built on two levels, this required a Building Maintenance Unit (BMU) which was able to travel around the outer edge of the building on rails and to be raised and lowered between floors as required.

The lift, designed and constructed by ESP in conjunction with SERAPID, interfaces directly with the control system on the rail mounted BMU and enables the BMU to be driven onto the lift and raised to a height of 3.6 metres.

Once at the upper level the BMU can again be driven off of the lift to access other parts around the outer edge of the building.

Both the lift mechanism and the control system were designed to withstand the harsh environment above the new skyscraper overlooking the river Thames.

Scan the QR Code for More Information.

CANARY WHARF
LONDON

As a fully integrated property development, investment, and management group, Canary Wharf Group has the experience and the reach to control and steer any project, of any size, from concept past completion.

In two decades, the group has not only transformed Canary Wharf into 16m sq ft of superior office, retail and leisure space, but it has also been called on to spread its expertise in tall building design across London.

Canary Wharf has an instantly recognisable London skyline attracting some of the world's greatest companies. More than 112,000 jobs draw in high value employees from all over the globe, including from right here on the doorstep in London's Tower Hamlets. Its five malls – with more than 300 shops, cafes, bars and restaurants – are shared by the world's leading luxury brands.

There are also more than 100 performing arts and events every year and there are more than 60 works of art by 45 artists and designers on public display.

Art Lift at Royal Academy of Arts, Piccadilly, London

As part of a £50 million expansion and renovation of the Royal Academy of arts in Piccadilly, London a new art handling lift was required to take incoming art and exhibitions from the basement access level directly into the magnificent Central Exhibition Gallery.

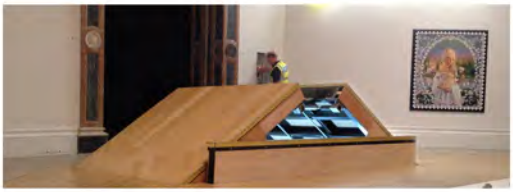
The lift is 2.3m x 4m and has a lifting capacity of 10,000 kg, as part of this project ESP and SERAPID had to devise a system which allows a lift to raise through a hole in the floor of the main gallery 5m above.

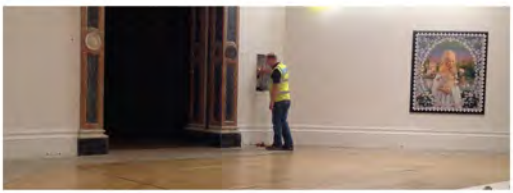
Automatic hatches and barriers were designed to encompass the specialist floor finishes of the main gallery and to provide the opening for the lift to travel through. The state-of-the-art control system first raises motorised barriers, then opens the hatches and therefore the floor of the main gallery. Once fully open the art handlers can raise the art lift from the basement level to the gallery level.

The cage of the lift has access doors which are safety rated and electrically interlocked. These doors need to be closed and locks engaged for the lift to operate.

ESP worked closely and tirelessly with both the Royal academy team and the main contractors SISK to install this lift with very limited access.

See our Video



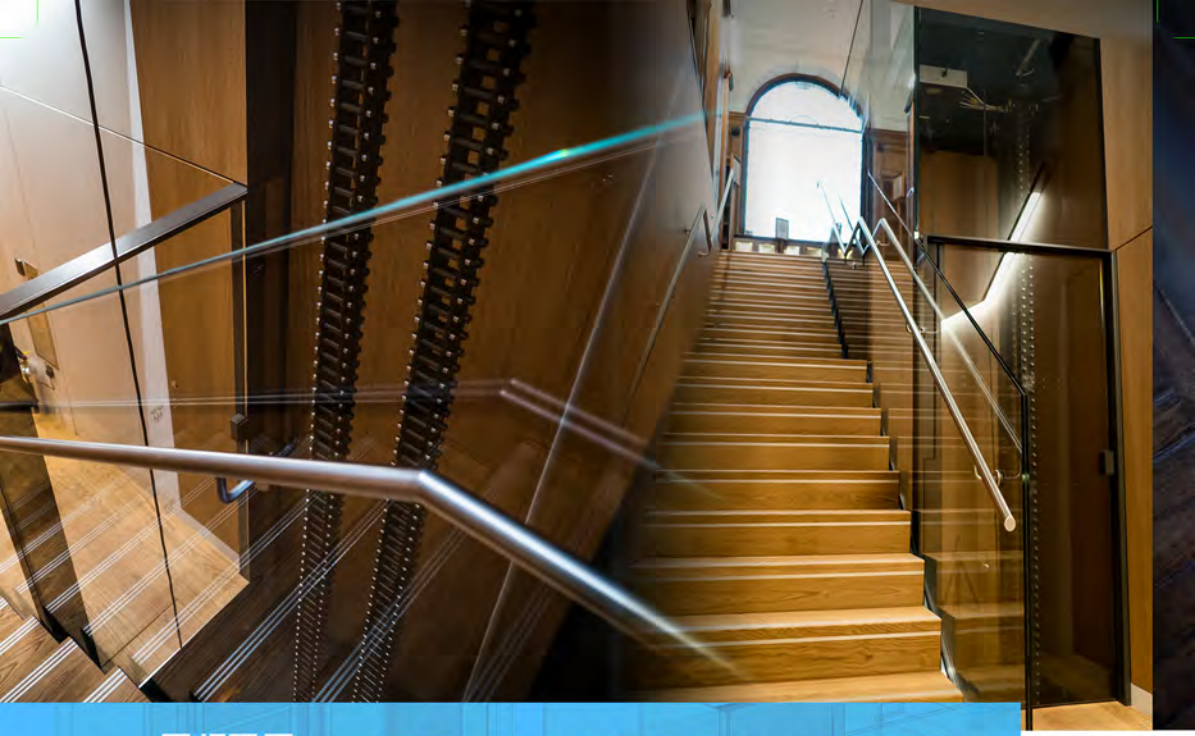


The Royal Academy of Arts (RA) is an art institution based in Burlington House on Piccadilly in London. It has a unique position as an independent, privately funded institution led by eminent artists and architects; its purpose is to promote the creation, enjoyment and appreciation of the visual arts through exhibitions, education and debate.

The Royal Academy of Arts was founded through a personal act of King George III on 10 December 1768 with a mission to promote the arts of design in Britain through education and exhibition. The motive in founding the Academy was twofold: to raise the professional status of the artist by establishing a sound system of training and expert judgement in the arts, and to arrange the exhibition of contemporary works of art attaining an appropriate standard of excellence.

From 2010-13, five of the world's top ten exhibitions with the highest daily attendance were held at the RA, including David Hockney RA: A Bigger Picture, The Real Van Gogh and Anish Kapoor RA. In 2015, nearly 400,000 visitors came to see Ai Weiwei.

In 2018 the Royal Academy are set to celebrate their 250th anniversary.



BESPOKE DDA LIFTS

Keble College & Queens College

Queens College DDA Lift

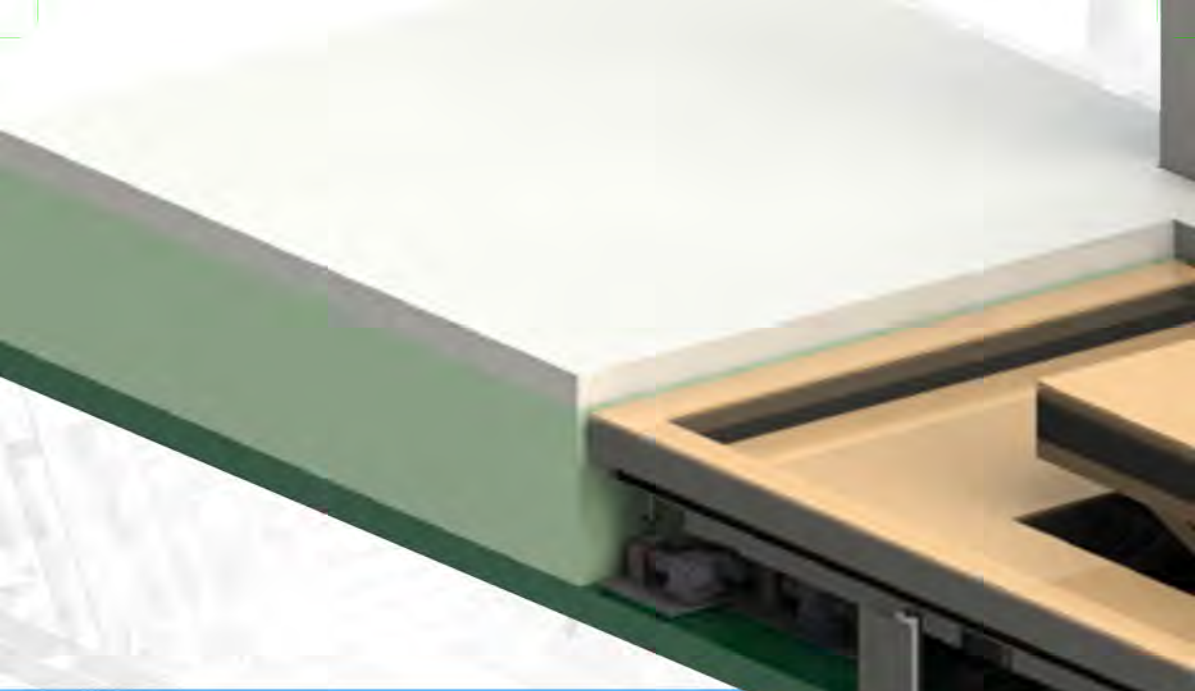
Queens college Oxford required a disabled access lift to provide access to their new underground library. ESP designed and installed a unique glass panelled lift with key card access and backup emergency power supply.

Although a challenge with restricted access to the lift, ESP were still able to complete the full installation before phase 1 completion of the remodelled library.

Keble College DDA Lift

Keble College Oxford had a requirement for disabled access from their courtyard to their dining hall. ESP supplied a bespoke lift with a low barrier & door entrance to the courtyard designed to be in keeping with the style of the listed building. The top of the lift has a balustrade capable of a 475kg load with a purpose fit slim line panel. With the importance of easy maintenance and a constrained area for the lift to be installed, SERAPID LinkLifts were used to provide a compact and efficient solution.

ESP worked in conjunction with Stannah to provide a full turn key project including design, fabrication, electrical installation, mechanical installation and commissioning.



LIFT DESIGN SERVICES

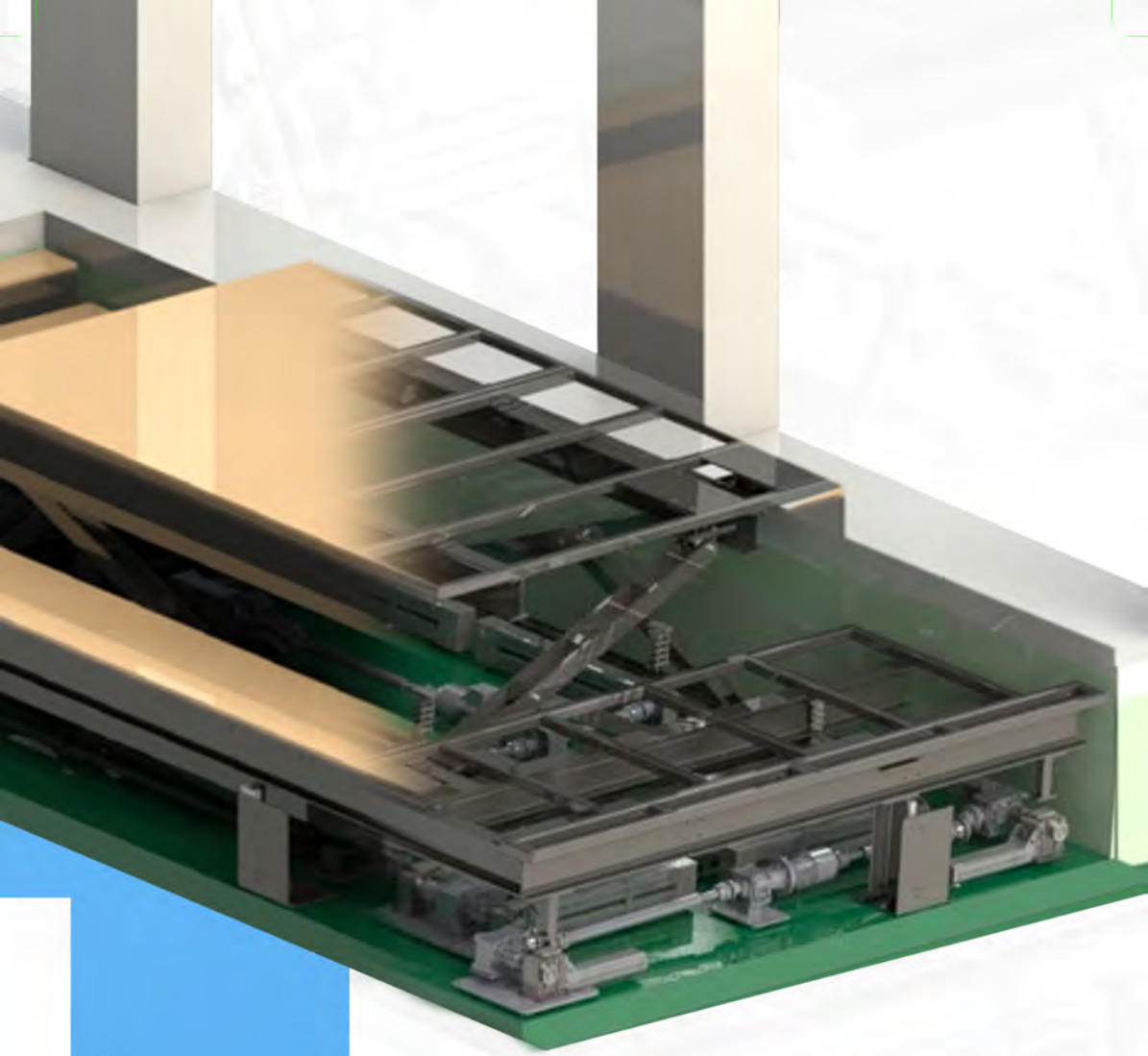
IN-HOUSE BESPOKE LIFT DESIGNS

ESP Ltd utilise the most up to date 2D and 3D modelling packages when designing lift systems. Mechanical designs are predominantly created in Solidworks 3D and can give the client a good picture of what the lift will finally look like prior to manufacture. We can also provide design drawings using the latest version of AutoCAD for compatibility with other systems. Structural calculations are provided for all rated loads and stresses. ESP are fully approved for the manufacturing and CE marking of structural steelwork to BS/EN1090.

ESP implements its lift control systems utilising industry standard components and controllers, which can be maintained by any competent 3rd party.

Our use of GOCP's (Graphic Operator Control Panel's) gives both the operator and the maintenance engineer full access to lift alarm and fault diagnosis, unlike other more conventional lift systems. The GOCP's also give the operator easy to read instructions for all lift operations making the lift system more user friendly.

Whilst we are able to deliver with excellence against a fully specified brief, ESP excels in developing tailored solutions to match our clients' exact requirements



Lift Regeneration & Servicing

ESP have completed numerous projects involving Lift Upgrade and Regeneration, replacing non serviceable lift systems with modern state of the art solutions. We specifically try to minimise the impact of lift replacements by pre building and testing prior to installation, therefore cutting the timescales and cost considerably.

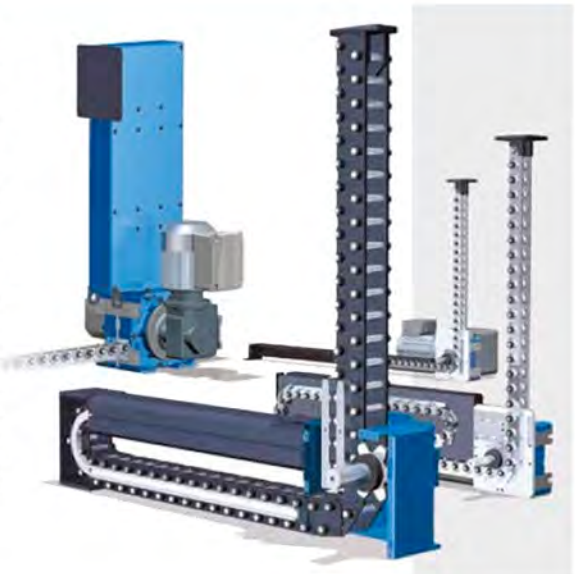
We also provide Maintenance and Support of all our lift systems. Our skilled staff provide nationwide 24 hour support whether the requirement is service or breakdown. We also employ the latest technology to be able to monitor and support our lift systems remotely using IT networks.

RIGID CHAIN TECHNOLOGY

LINEAR DYNAMICS

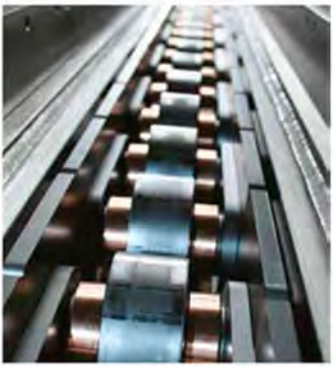
Rigid chain is a telescopic mechanical actuator that is flexible in one direction and rigid, like a steel beam in the other. Ideally suited for moving heavy structures over long distances.

Built on the in-depth experience of thousands of linear actuation systems, ESP has the technology to provide unique moving features in a wide range of sectors of which aspects include push pull structures weighing in excess of 200 tonnes and lifts capable of up to 300 tonne loads, with a permanently improving product range providing adapted and bespoke solutions for the most audacious projects.









SERAPID

RIGID CHAIN TECHNOLOGY

WE PARTER WITH THE WORLD LEADER IN THE MECHANICAL TRANSFER OF HEAVY LOADS

For over 45 years, SERAPID has been a leading supplier of horizontal and vertical load transfer systems for the nuclear, automotive, aerospace, medical and metal processing industries as well as for the entertainment and architectural sectors. Solutions include lifts and push/pull systems used for nuclear waste transfer, car lifts and pallet pushing systems. SERAPID is also one of the world's recognised experts in Quick Die Change, a process that requires the handling of very heavy stamping dies, in excess of 100 tonnes. SERAPID's experience in industry and manufacturing set the stage for their debut in theatre. In 1996 they developed and supplied the first stage wagon system on board a cruise ship. 3 years later in 1999, they developed the LinkLift lifting column and won the Product of the Year award for the LinkLift 100 at the LDI Theatre Show. In 2003 SERAPID developed the LinkLift 80 and took Best of Show at the Showtec Exhibition in Berlin. In 2008, the world got a glimpse of SERAPID lifts in action during the Summer Olympic Opening Ceremonies in Beijing, providing 62 lift columns covering an area of 1,080m^2.

SERAPID now employs over 100 people across the world including Sterling Heights (USA), Londinieres, Rouxmesnil (France), Bad Mergentheim (Germany) and Bury-St-Edmunds (UK). SERAPID has agents in Italy, China, Korea, Spain, Australia and Brazil.



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