



Portfolio



J&C Joel 
Inspiration in every performance



contents

06 - Drapery
Solutions

24 - Manual
Rigging

42 - Stage
Mechanics

16 - Acoustic
Solutions

34 - Power Flying
Systems

48 - Control
Systems

D4 welcome

As well as being one of the world's leading manufacturers of flame retardant fabrics and flooring, J&C Joel is an established leader in the stage engineering sector.

J&C Joel is a global company with a world class Projects department that designs, manufactures and installs a range of equipment and heavy machinery for all manner of performance venues from national theatres to school halls.

We are accredited members of a range of industry bodies and our trained engineers are qualified to install our products to industry standards and comply with governing bodies worldwide.

From drapery truss and track systems to complete stage engineering solutions, our team of highly experienced project managers and engineers combine their knowledge with industry experience to provide the very highest standards. They specialise in the installation of bespoke mechanical solutions for any setting as well as undertaking the design and installation of custom rigging solutions, tracking systems, manual and powered flying systems for theatres, powered lifting systems and complete acoustic solutions.

Within this portfolio, J&C Joel are proud to present some of the most complex and impressive stage engineering projects our team has undertaken in recent years, in some of the most prestigious venues across Europe, Russia, the Middle East and Asia.

Above all the J&C Joel family puts its customers at the heart of everything we do to ensure your performance always takes centre stage.

JAMES WHEELWRIGHT - CEO

Key



Drapery Solutions



Power Flying Systems



Acoustic Solutions



Stage Mechanics



Manual Rigging



Control Systems

Accreditations



J&C Joels Engineers are qualified to a range of:



www.jcjoel.com

Qatar National Convention Centre, UAE



Drapery Solutions

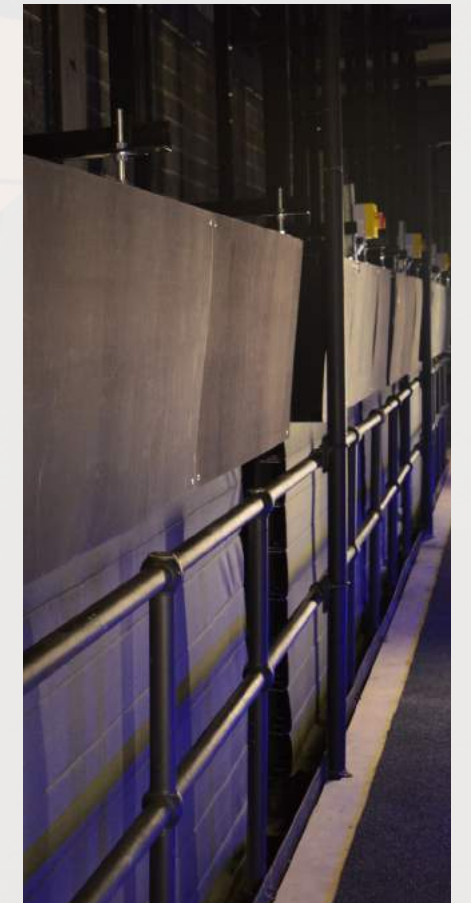
The manufacture of large scale drapes is at the heart of our business and we provide a complete engineering solution to make them perform as required. Our complex systems work seamlessly to lower and raise some of the world's largest, most intricate drapes hung in venues around the world.

J&C Joel offer a selection of manual and motorised tracking systems to suit all types of drapes. We supply the industry leading brands such as Triple E, Silent Gliss and Goelst. It is important that the right track matches the right drape.

We also offer a range of Safety Curtains including traditional Solid Fire Curtains and Brail Safety Drapes. In addition to designing, manufacturing and installing these Safety Curtains we are also able to provide maintenance and repair services.



The Royal Birmingham Conservatoire, UK



In one of the company's biggest ever projects in the UK, J&C Joel, helped keep sound in check by installing their acoustic solutions in the Royal Birmingham Conservatoire's performance spaces.

The £57m facility is an international music and drama academy, which is part of Birmingham City University. It has over 500 students on undergraduate, postgraduate and research programmes, as well as a junior department of over 200 students. In 2015, renowned cellist and conductor Julian Lloyd Webber was named as Principal.

The Conservatoire has moved to a new building adjacent to Millennium Point, where Birmingham City University already has a campus. The new building includes The Concert Hall – a 500-seat concert hall with a large stage, to accommodate a symphony orchestra. Other venues include The Recital Hall with retractable seating, The Lab, a cutting edge, completely flexible black-box studio, and Eastside Jazz Club, the first permanent jazz space in any UK conservatoire.

For the multifaceted project J&C Joel provided an array of stage engineering and acoustic solutions for The Concert Hall. This included 24 acoustic concertina banners, rolling beams, moving stage, temporary demountable forestage and an acoustic reflector rigging system.

One of the most important aspects of the job was the acoustic properties in the performance spaces. To improve the acoustics in The Concert Hall, 24 acoustic concertina banners were installed ranging in size from 2.2m wide to 4.5m wide. The banners were manufactured by the in-house fabrication team to meet the acoustician's specification with dual lined premium wool serge, which was custom dyed and mounted on aluminium slats to provide additional sound absorption to the walls of the room when lower reverberation times were required. Each was independently controlled via a master control system so each blind could be operated on demand to create variable height, or selected to move all 24 at once.

Six x500kg Chain hoists, three x600kg pilewind hoists and five x500kg steel band hoists were also supplied and installed with a centralised rack-mounted control system, enabling individual and grouped control of different axes from a variety of positions at walkway and concert platform level via a digital controller.

J&C Joel's project engineers also installed 12 travelling beams and beam trolleys with chain hoists in The Concert Hall for a flexible rigging system these had a safe working load of 500kg per point. Over the concert platform three motorised, fixed speed, cross-stage

bars with a safe working load of 500kg per bar were supplied for the suspension of platform lighting and other equipment. The company also provided stage engineering for 15 variable acoustic reflectors which consisted of 30-bespoke mounted D8+ manual steel wire rope winches and associated rigging.

An orchestral rolling riser was installed at the rear of the stage which measured 15m wide and 7.5m deep, which can be deployed as required to raise the rear of the stage and provide more space for concert performances. A demountable forestage was also designed, fabricated and installed measuring 2.5m by 16m wide which provided more performance space with coverage over the first two rows of auditorium seating. This had a safe working load of 5Kn per m2.

The forestage was commissioned and designed to be stored under the stage in separate components. This presented challenges for the team due to the confines of space but the team found a solution by combining latest technology with stage engineering, and creating the required load capacity and demountable structure.

In The Recital Hall, J&C Joel's engineers supplied and installed perimeter track and drapes. A manual corded Erail was installed and natural Coloured Wool Serge (WS020) masking drapes were manufactured and hung from it.

For The Lab, J&C Joel also provided and installed a system of three chain-hoist operated truss grids, comprising of 500kg chain hoists and Litec QX30SA truss this was tailored to the client's requirements and internally wired for stage lighting and audio-visual solutions. These grids offered flexibility, and prevented the need to clear all equipment out of the hub when the grids were lowered. The grids were provided with a control system that allowed any grid to be lowered, or raised, at a time. A Unitrack was also installed on three sides of the space to provide the opportunity to hang drapes in the future if required.

In the Eastside Jazz Club, a system of chain-hoist operated ladder bar grids was supplied and installed comprising of bespoke Litec FX30s truss which was also internally wired. The grids were provided with a control system that allowed both grids to be lowered, or raised, at a time.

Martin Radmall, J&C Joel's UK Project Manager said: "This was a fantastic project to project manage. It was great to be able to oversee the installation of J&C Joel's premium stage engineering and drapery products into this ground-breaking new building. The J&C Joel Projects department really pulled out all the stops to deliver this multifaceted project. The seven-month installation period of the stage engineering equipment, required multiple departments within J&C Joel assisting in the design, fabrication, delivery and installation of the total project.

"Utilising the best products available in the marketplace, and the ingenuity of the Projects team we were able to leave Birmingham City University with a fantastic venue for their musical future."





J&C Joel's drapes created a real touch of magic when under the spotlight at an unveiling of a new Russian airliner.

The MC-21 plane was showcased by airline manufacturer Irkut at a glitzy ceremony held in a 43,000 sq ft airplane hangar in Siberia. The event was attended by the Russian Prime Minister Dmitry Medvedev and around 1000 specially invited guests.

J&C Joel were approached about the project by Ceremonies Staging Agency (CSA) after they saw the firm's fabric and drape retraction units used in Berlin-based show - The WYLD. They decided they wanted to create the same effect with the concept being the drapes masking the plane disappearing out of sight in seconds to create a stunning effect.

Oliver Marns, UK, EU & Russia Sales Manager, said: "After speaking to Kirill from the CSA and getting an understanding of the effect he wanted we realised that our drape retraction unit teamed with our drapes and Kabuki drop system would be the best fit for the project.

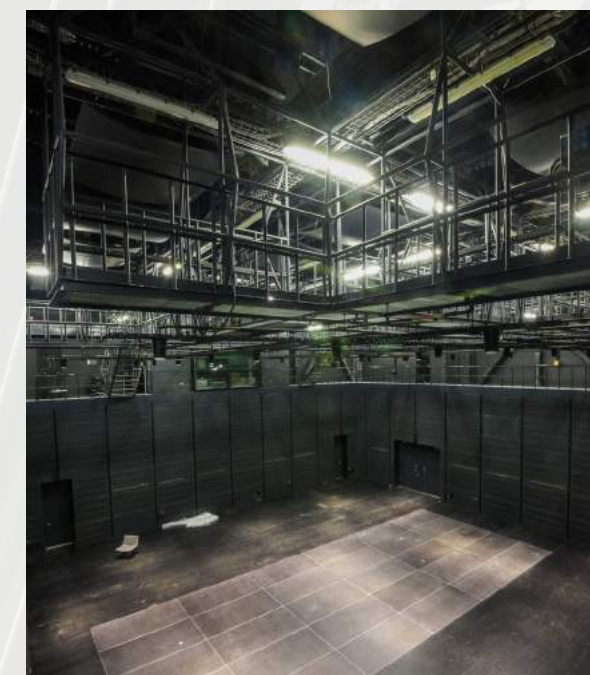
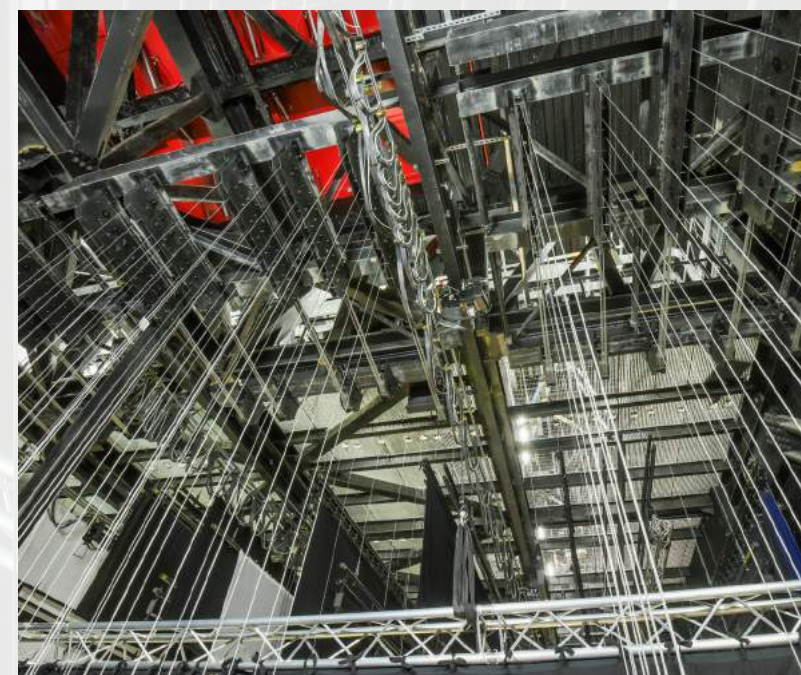
"The Kabuki provides the safe and reliable drop of the drape and the retraction unit can quite literally withdraw a drape out of sight in seconds to create a stunning effect."

J&C Joel's Creative Manufacturing team, led by Andrew Hastwell, installed the unit, Kabuki's and the silver Trevira Silk (PT015) drape, measuring 30 metres by 15 metres, which also doubled up as a projection surface for holographic images and video content before the big reveal.

The drape retraction unit was combined with 50 Kabuki drop units to create the show-stopping effect of the plane appearing in front of the audiences' eyes.

The system underwent three days of testing in the UK to ensure it would run smoothly once set up in Russia. The biggest challenge the team had to overcome was the drape being too big to retract into a single unit, but the team overcame the issue with some clever re-engineering of the unit.

Oliver added: "We were delighted to be involved with a project of this importance. It was a brilliant opportunity to showcase our products and installation prowess on an international stage."



In one of the company's most complex ever installations - which took around 18 months, J&C Joel, carried out a complete fit of all the stage engineering solutions and supplied a drapery package at New York University in Abu Dhabi.

New York University, Abu Dhabi Campus is a research university with a fully integrated liberal arts and science college which draws in students from around the world. It has a dedicated performing arts centre which houses three main theatrical spaces - a main theatre, recital hall and a black box multi-purpose space as well as 25 studio spaces with rigging infrastructure.

In the main theatre, J&C Joel's engineers installed a variety of theatrical rigging equipment ranging from motorised performance drum hoists which can move up to a metre per second, and motorised chain hoists which can provide fixed rigging positions.

An adjustable proscenium was supplied and installed to change the width of the proscenium opening and a set of motorised tracks and drapery to provide a variety of theatrical drapery scenarios.

J&C Joel provided a variety of drapery including FR Velvet Velour Front of House drapes and pelmet for the main theatre and recital hall. An automated brail safety curtain was also installed to provide a safety barrier between the stage and the auditorium in the event of a fire. Black Wool Serge (WS090) masking and perimeter drapery was also supplied and installed throughout the various spaces in the performing arts centre.

A Serapid LinkLift™ motorised orchestra lift with a travel of 11m was also installed making it one of the deepest Joel's have ever undertaken. J&C Joel also supplied and installed an orchestra shell for the main theatre as well as a series of loose staging elements to assist in choral and orchestral choir performances for all three main theatrical spaces.

All the three main performance spaces had a variety of variable acoustics installed which were changeable depending on performance type - ranging from acoustic flaps in the main theatre auditorium's ceiling and wall structure providing diffusion of reflection where required to concertina acoustic banners in the recital hall and acoustic ceiling reflectors in the black box space.

All the motorised elements were connected to an integrated automation control system which included real time graphic display.

The recital hall space was designed as a much smaller intimate acoustic space. J&C Joel engineers installed seven motorised package hoists and another automation control system which was tracked into the ceiling when not required.

The black box space is a multifunctional space for a variety of staging applications with its ability to work in the round, in thrust staging and traditional end on staging formats. Within the space, J&C Joel's team installed a series of motorised chain hoists and a winch system for the acoustic reflector panels which are connected via the automated control system.

In the workshop at the rear of the main theatre two manual counterweight systems were installed and in the 25 studio spaces the engineers installed a fixed pipe grid system for hanging lighting equipment to allow the space to be adapted as required.



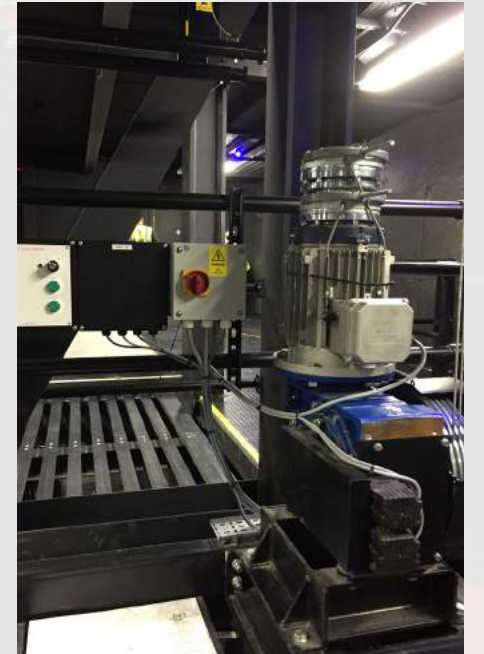
Acoustic Solutions

The use of drapes, banners, shells and baffles are a highly effective way to control or enhance the acoustics of any venue by controlling noise reverberation in a certain space.

From the world's largest concert venues to small school halls, our specialist team will work with you to design, manufacture and install a solution that ensures the acoustics in your venue enhance any performance.

J&C Joel offer a wide range of acoustic solutions including Acoustic perimeter drapes, motorised Roller Banners, Concertina Banners and Acoustic Shells which can be used to improve the acoustics of a performance space.





J&C Joel played a major role in the design, manufacture and installation of the stage engineering at HOME Manchester.

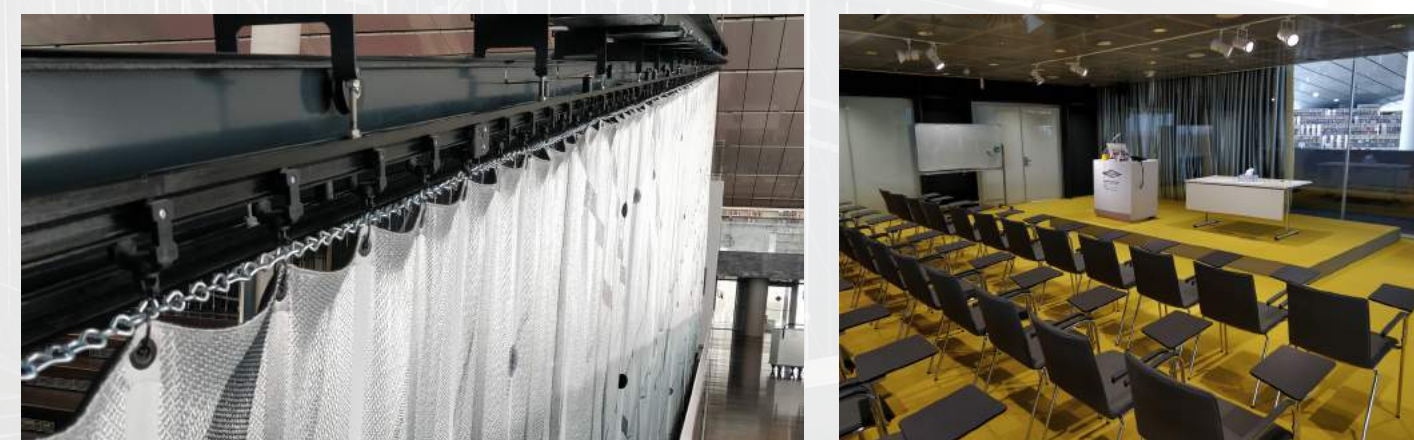
Formed by the merger of two of Manchester's best-loved arts organisations, Cornerhouse and the Library Theatre Company, HOME Manchester is a new vibrant performance centre for the arts.

When HOME was being built J&C Joel designed, manufactured and installed the mechanical engineering for the Main Theatre, Black Box Space and Cinema Complex.

In the Main Theatre J&C Joel installed a double purchase counterweight system with electrical pilewinds integrated to allow for stage lighting bars. To provide a flexible approach moving rolling beams with chain hoists were installed to provide set designers with the optimum facility to located anything anywhere on the stage.

To compliment the main stage, a house curtain track and rich plum Velvet Velour (VEL003) Front of House curtains were installed along with a full set of stage and masking acoustic black Premier Wool Serge (WS090) drapes.

The installation was complete with a motorised Front of House truss. The Black Box Space has the traditional fixed modular grid, while the cinemas were enhanced with side boom lighting bars.



J&C Joel supplied and installed the stage engineering solutions for the Qatar National Library.

Qatar National Library (QNL) is a non-profit organisation under the umbrella of the Qatar Foundation for Education, Science and Community Development.

J&C Joel's engineers installed a bespoke inclined tracking system on an inner continuous loop track and an outer u-shaped track. Each track was a modified version of Triple E's E-rail track with an external side guide system and each was motorised by a bespoke friction drive unit. This bespoke solution required modification to standard E-rail components. This deployed a one of a kind weaved fabric curtain.

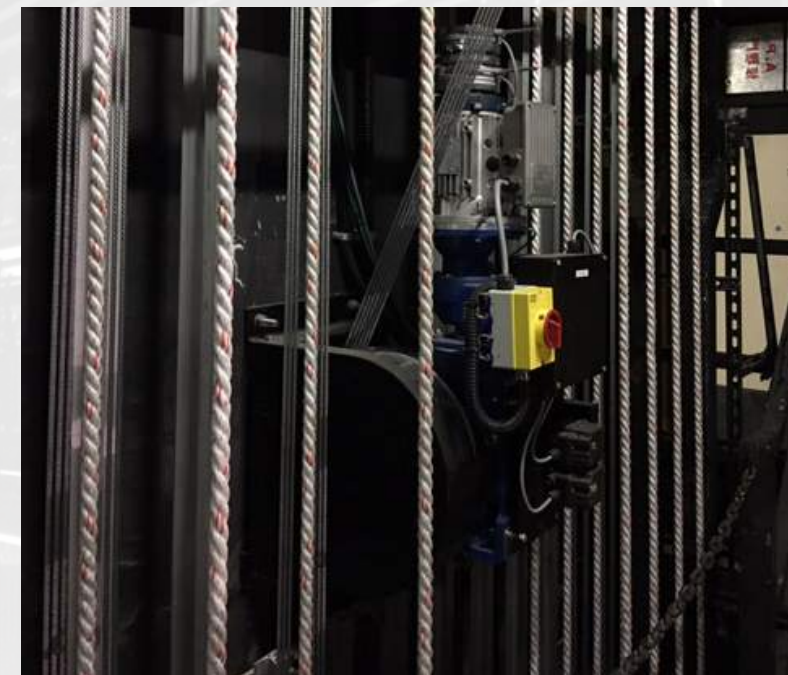
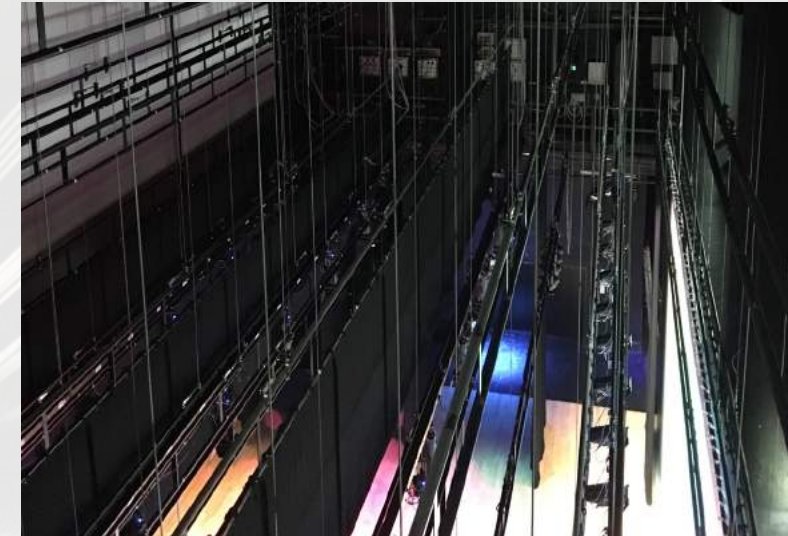
The team also installed an external perimeter E-rail track in the auditorium. The track was within a concealed pelmet which deployed a double layered curtain made from Silver Faux leatherette with perforated intervals along it to help it fold. A custom dyed yellow fibre glass drape was also hung from it.

An internal perimeter Goelst 6200 tracking system was also installed in the auditorium which deployed a sheer pearl white voile. Both tracks were linked back to a touch screen interface mounted within the glass walls of the auditorium.

A complete lift system was supplied and installed in the auditorium which consisted of a mechanised stage lift platform which was driven by four Serapid link lift 30s. It was double braked with a synchronised shaft system and guided on all four sides by lambda guides. This was linked back to a touch screen interface mounted within the glass walls of the auditorium.

In the study room four manually corded Goelst perimeter tracks were fitted within a concealed pelmet which deployed sheer white voiles.

To the north façade, J&C Joel's engineers also installed 82 roller banners over two levels each with an integrated tubular motor and suspended discretely above the ceiling space. Each blind deployed a semi-transparent pearl white vinyl fibre glass fabric with a 95-97% UV blockage. The banners were designed to be operated in preselected groups via a VRS wireless pendant but were also integrated into the building management system.



J&C Joel carried out a refurbishment of the existing stage engineering solutions at Hong Kong Polytechnic University.

The Hong Kong Polytechnic University (PolyU) is one of the top tertiary institutions committed to playing a key role in higher education in Hong Kong. J&C Joel refurbished an existing counterweight system by replacing the rope locks, ropes, all of the 5mm steel cable, head and drop pulleys, terminations to the ladder bars and the ladder bars themselves.

To facilitate the refurb a full secondary steel grid was designed and installed underneath the existing concrete beams. In addition to that, five electric lighting bars which had previously been on power assist counterweights were replaced by J&C Joel pilewind winches which had a 450kg safe working load and a speed of 0.1m/sec with double brake slackline detection.

The Front of House curtain was put onto a zero-fleet hoist six-line winch which was double braked and had overtravel limits. It had a safe working load of 650kg and the speed was 0-1.2m/sec. Two Front of House lighting bars were also put onto J&C Joel pilewind winches with three lines, a 450kg safe working load and a speed of 0.1m/sec. Two forestage pilewind winches were installed in front of the proscenium with three-lines, double braked with overload slackline detection. They had a safe working load of 450kg and a speed of 0.1m/sec.

An Orchestra lift was also installed which was powered by 8 Serapid link lift 50s. It also incorporated two motorised hinged trap doors to cover permanent stairways. All the winches had to have incremental and absolute encoders and load cells.



Manual Rigging

J&C Joel are experts in the design, manufacture and installation of Manual Rigging systems for theatres, TV studios, rehearsal spaces and touring shows. We provide a range of solutions to suit any requirement including Hemp Sets, Pilewind Winches, Counterweight Sets.

Our Hemp Sets offer a quick and simple way to manually raise and lower lightweight scenes, drapes and light equipment. Pilewind Winches are the industry workhorse. The J&C Joel range of Pilewind Winches are available in safe working loads from 125kg to 1000kg.

Counterweight Sets are the backbone of any traditional theatre and are used worldwide. They are the ideal manual way to move all manner of sets, drapes, lighting bars and anything else on a stage that needs to fly in and out during a performance.





J&C Joel was awarded the contract for design, supply and install all the theatrical rigging systems for the Broadway Theatre at the Galaxy Macau.

J&C Joel worked directly with the project management team to provide rigging equipment, rigging control systems and drapery throughout the entire Broadway Theatre. The Projects team undertook full design, supply and installation on all theatrical rigging systems including drapes and tracks.

Within the stage area, the overhead stage engineering systems comprised: motorised truss lengths for lighting and scenic rigging; static truss lengths for border and leg curtain suspension and curtain tracks mounted to galleries and trusses. Pin rails were also installed on either side of the stage - running the full depth of the stage.

A full set of black stage curtains manufactured from Black Heavy Velvet Velour (VELH040) and measuring 32m by 16m with 50% fullness were installed. The Front of House curtains measuring 32m by 16m with 50% fullness were manufactured from angel fire Vegas Velvet Velour (VEL172).

J&C Joel also designed, supplied and installed a Premier Wool Serge (WS090) curtain system that would reduce the house size from 2,800 seats to 1,000 seats to suit smaller performances / functions. This provision comprised motorised trusses, including control system; modular drapes to be in any location along the trussing.



In one of the company's biggest ever installations, J&C Joel in conjunction with their regional distributor Eramita and under the design of George Andreou (Desmus), carried out a complete fit out of stage engineering solutions at TCCB National Congress and Cultural Centre - one of the largest multi-purpose halls in Turkey, which is located in the heart of Ankara, in Bestepe, within the grounds of the Presidential Palace Complex.

The whole building's design is inspired by Selcuk architecture, which represents Turkish culture. The congress and cultural centre is dedicated to the Turkish Nation by the President of Turkey, Mr. Recep Tayyip Erdogan. Through having international standards, the venue can be home to several types of performances ranging from concerts, operas, theatres, musicals to congresses or big meetings. The capacity of the hall is 2042 seats.

The engineering team installed a 45-axes powered flying system to provide over-stage suspensions for lighting, scenery and stage drapery. Most of the bars were cross-stage and arranged to give maximum bar coverage from the front to the rear of the stage but there were also two sets used for up/down stage.

Of the cross-stage sets, three of these were dedicated for ceiling panels that formed the roof of the acoustic concert shell. These axes are controlled via the JCY StageGem master control system and for increasing the flexibility of general rigging and suspension from the stage and auditorium, an extra 30 loose electric chain hoists (D8 type) were also provided.

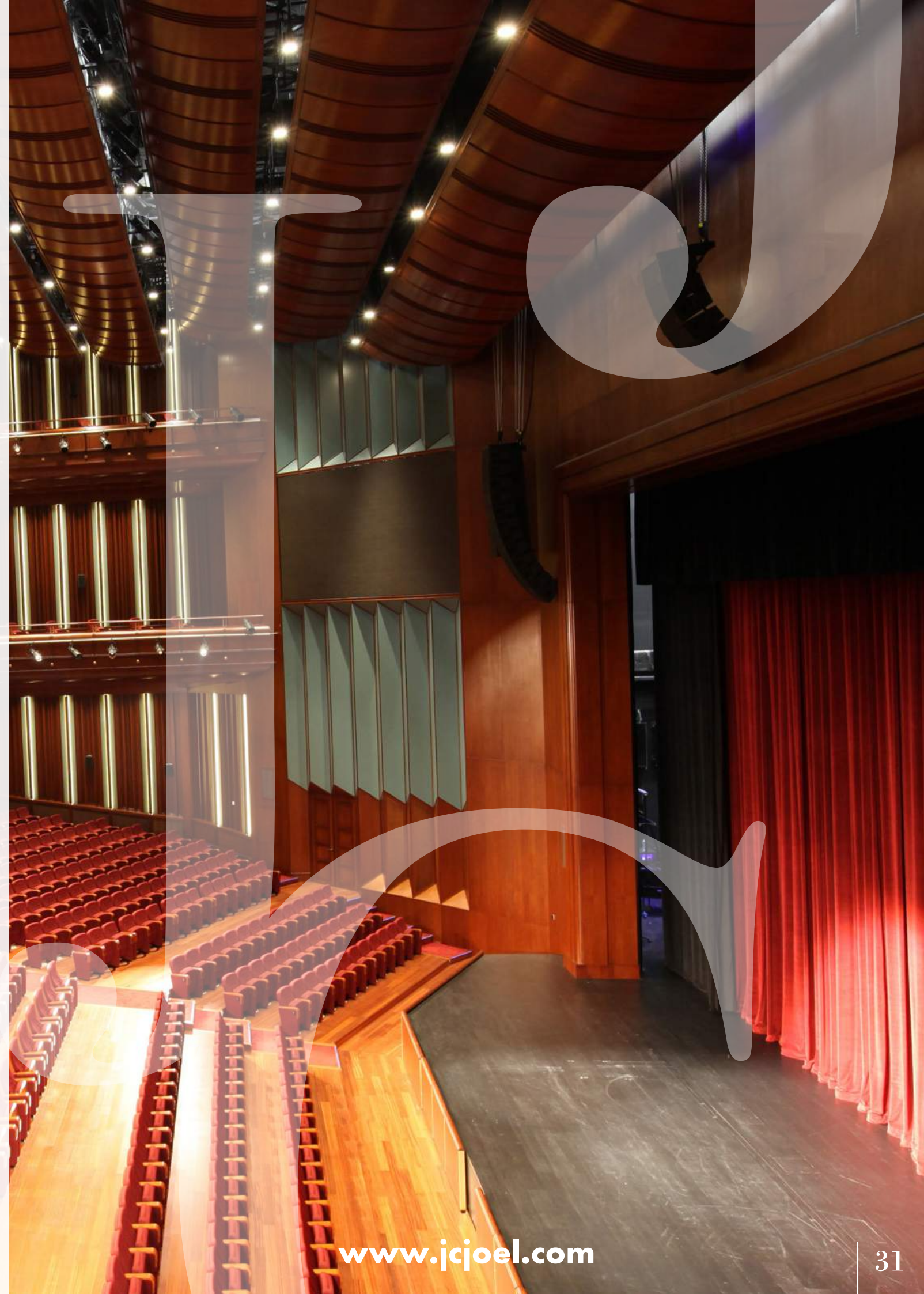
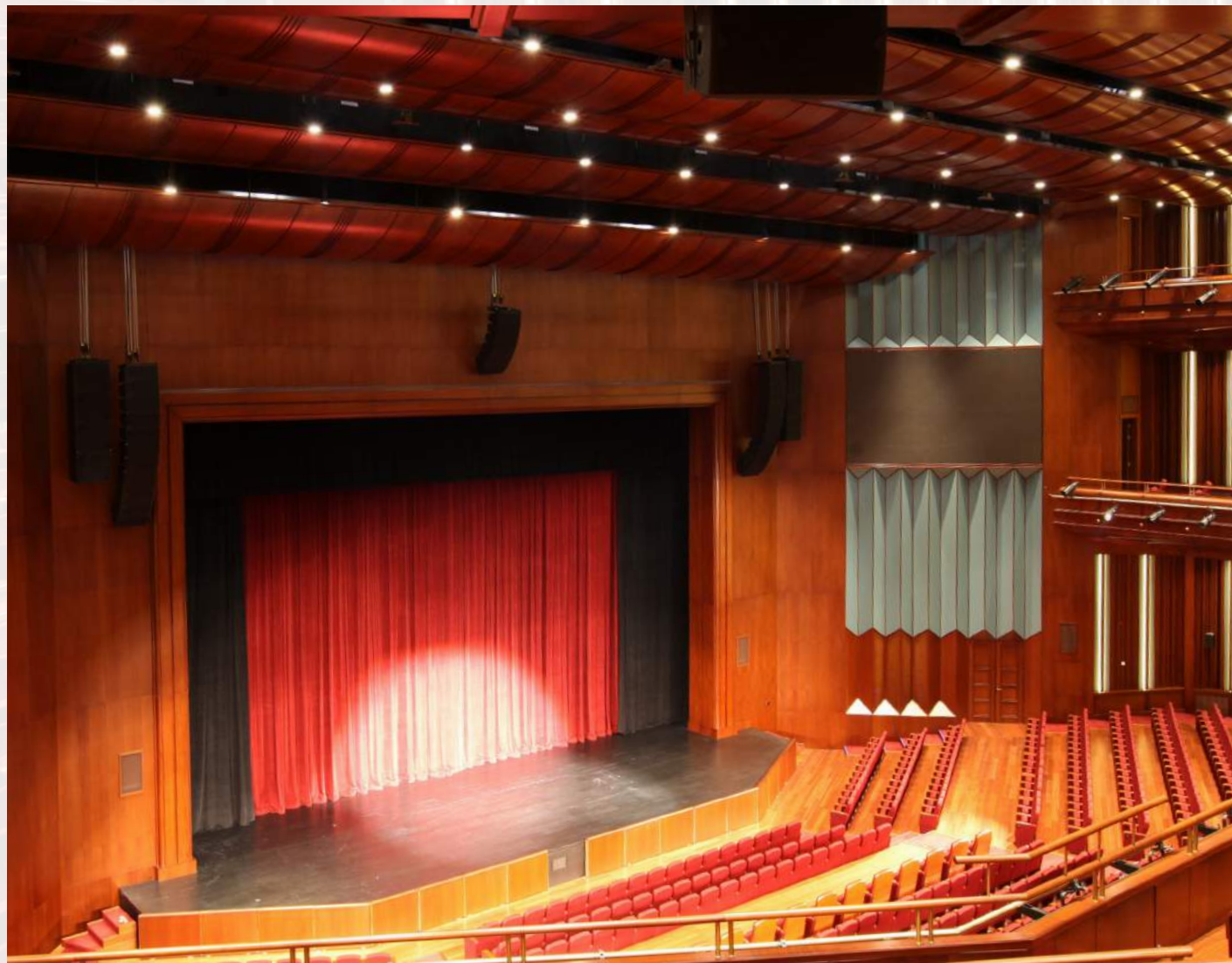
A complete lift system was engineered consisting of a front of house lift in the centre of the auditorium seating and two orchestra lifts each driven by Serapid Link-Lift systems. Orchestra lift one was situated in front of the proscenium and can be deployed at stage level to create a thrust stage, or at the auditorium level to create a flat floor space between the seating and the stage front. It can also carry portable chair wagons that lock into position on the lift and provide additional seating. Lift two was located directly under the front of the stage and travels from basement level to orchestra level. Both lifts are controlled via the JCJ StageGem master control system.

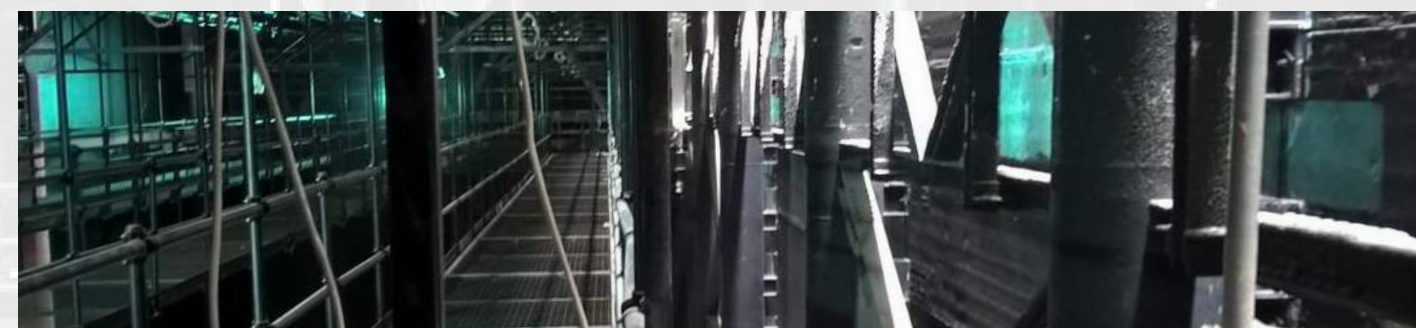
J&C Joel provided five seating wagons, configured to replicate the footprint of lift one, these are stored in the basement and are moved across lift two, onto lift one and locked into position. The method for moving the wagons is a system of four air-bearings on each wagon frame, which when inflated using a compressed air supply in the basement, lifts the frame of the wagon above the floor (akin to a hovercraft).

James Wheelwright, J&C Joel's CEO, said: "The main challenge for the project was the lead-time – we had to design and procure a huge amount of equipment, much of it bespoke, within a very short timeframe and to this end we have to thank our major suppliers JR Clancy and Serapid for their help and support. The execution of the installation was carried out expertly by the site team and personnel were called in to assist from all of the J&C Joel offices worldwide to assist when necessary in order to meet the site program.

"There were issues with impromptu site closures following the attempted military coup in July 2016 but with great teamwork from our regional distributor Eramita, the Project Consultant George Andreou and his team at Desmus plus all the management and work force of the main contractor REC; all problems were overcome, and the stage equipment package was completed and commissioned on schedule and within the agreed budget.

"The close working relationships forged with all the Turkish people architects, consultants, main contractors and sub-contractors were, in my opinion the key to the success of the project."





When the construction of MOTIONGATE™ Dubai began, they called on J&C Joel to install a tension wire grid system in the park's theatre.

Dubai Parks and Resorts, the ground-breaking \$2.86 billion multi-theme park complex, has become the city's hottest new attraction. The site includes three theme parks and one water park – MOTIONGATE™ Dubai, Bollywood Parks™ Dubai, LEGOLAND® Dubai, and LEGOLAND® Water Park. The entire destination is connected by Riverland™ Dubai – a themed retail and dining destination and Lapita™ Hotel, a Polynesian themed hotel part of the Marriott Autograph Collection.

As the Middle East distributor for SkyDeck, J&C Joel's expert team knew the system would prove to be the right tension wire grid for the project as it gave a transparent portal for lighting and sound devices ensuring there was no discernible loss of focus, signal, or energy. J&C Joel's engineers installed 790sqm of the SkyDeck system in MOTIONGATE™ Dubai's theatre to create four tension wire grid walkways. This was constructed from outer frames made from pressed c section with a SHS compression member fitted centrally in each direction where required, with black wire ropes at standard 70mm x 70mm pitch.

The walkways provided safe access to theatrical lighting, audio cables, loudspeakers, stage rigging, and effects. Lighting could be hung on a pipe grid just above the tension grid; there was no need for holes, as the light could shine through the grid, virtually unobstructed, to the stage.

Ben Richardson-Owen, Middle East Project Manager at J&C Joel, who handled the installation, explained: "Using the SkyDeck system over the traditional net system we found the installation was smoother and faster and we were able to complete the project on schedule."

The success of the project has meant J&C Joel have also been commissioned to supply the drapery package for MOTIONGATE™ Dubai and Dreamworks. And the firm has also won another tension wire grid project using the SkyDeck system.

Ben commented: "On the back of the MOTIONGATE™ Dubai project we have been able to win another tension wire grid project using the SkyDeck system in Qatar and have been receiving enquires for many more projects."

Jeff Craycraft, SkyDeck Sales Manager at InterAmerica Stage Inc, concluded: "We were thrilled to see SkyDeck's global reach expand into Dubai. SkyDeck truly is the most efficient and safest wire tension grid on the market. Working with the professionals at J&C Joel, we were able to bring advanced wire tension grid technology to the MOTIONGATE™ Dubai project and we're very proud of that."



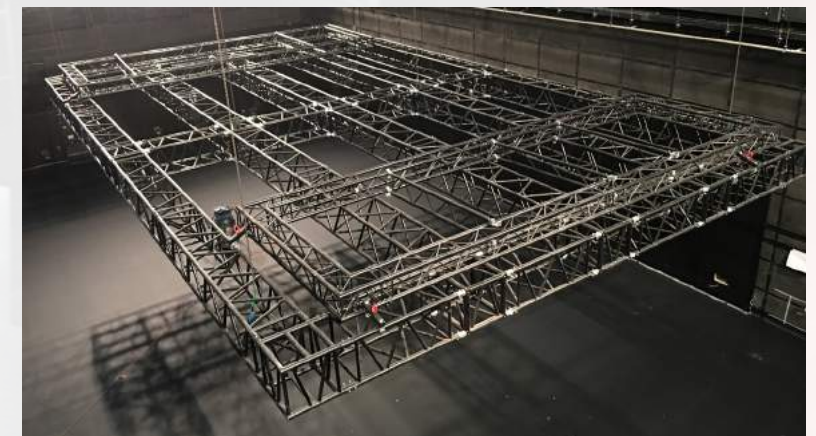
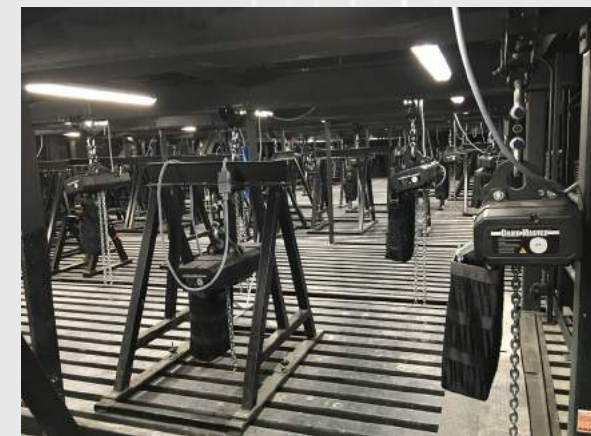
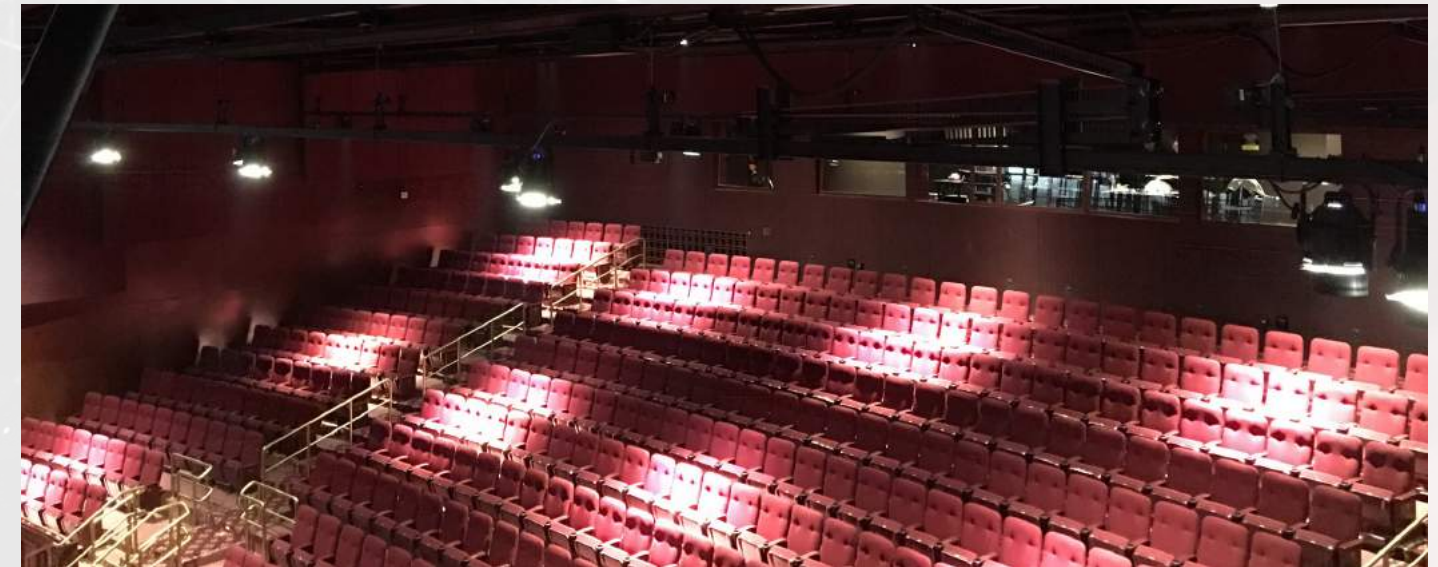
Power Flying Systems

We can design, manufacture and install bespoke winch systems utilising combinations of performer and non-performer zero fleet, large drum and multi-axis designs using a variety of gearboxes, drum and brake variations to achieve the specification.

Like the manual version, J&C Joel motorised Pilewind Winches are available in safe working loads from 125kg to 1000kg. The Line Shaft Hoist is the answer when space is limited. The hoist is a self-contained unit which has a central shaft, housing individual drums per line drop, driven by a single motor.

J&C Joel Zero Fleet Winches are designed to be mounted easily in a variety of different orientations without the concerns of fleet angle. Drum winches are the most widely used motorised winches. Usually the entire load is supported by the winch, without the use of counterweights.





When the Parisian Casino & Hotel in Macau was being built, they called upon J&C Joel to provide a full stage engineering and drapery package for its theatre.

The Parisian reportedly cost \$2.5 billion to build, has around 3000 rooms, 170 shops, 56,000 square feet of meeting space and features a half-scale 525-foot Eiffel Tower as one of its landmarks.

J&C Joel's Project engineers installed two ETC Prodigy hoists which could span the width of the auditorium, allowing the house lights to be placed anywhere over a 105' width. The distro trough could be lowered with the push of a button for re-lamping or servicing the house light fixtures. The unique cable management system allows this hoist to be easily hidden between the clouds of the auditorium ceiling.

Within the stage area: 1x mother truss; 2x side truss grid frames and 2x 20m truss lengths were provided for the stage rigging and curtain suspension. The trussing is suspended using Chainmaster BGV-C1 chain hoists in a portable format using overhead beam clamps and a supply of grid mounting hanging frames.

A further quantity of Chainmaster BGV-C1 chain hoists were also supplied for the speaker clusters within the forestage zone. All chain hoists within the venue can be controlled using 2x handheld controllers or 1x main control desk plugged into any one of the 8x control points throughout the stagehouse.

Two types of technical trough platforms from Stage Right with different surfaces (solid timber and mesh grill) were provided and installed at stage level to create an audio and stage-lighting pit.

Manually-operated House Curtains were manufactured from Pennine IFR Sowerby 550 g/m² in Plum and were hung from a Unitrack with crossover. The Masking Legs and blackout Rear-stage Traveller were made from a short densely piled IFR Velvet Velour in black.

The Band Porch, located downstage-right was masked off using manually-operated black Velour curtains. A Cyclorama and Sharktooth scrim were also provided.

The Wyld - Friedrichstadt-Palast, Europe



J&C Joel were approached by the Friedrichstadt-Palast in Berlin, to create an eye-catching drapery set-piece for their new production - The Wyld.

With a budget of over €10million, The Wyld was the most expensive production outside of Las Vegas. Hosted on the world's biggest theatre stage at Friedrichstadt-Palast in Berlin, it was a celebration of ultra-modern performance art. The show, which featured over 100 performers, was the creation of internationally recognised fashion designer Manfred Thierry Mugler and top European show producer Roland Welke.

Their concept involved five uniquely shaped and swaged drapes that appeared in seconds to conceal the stage space and to create 'props' for the artists to dance in and around. Then, the drapes disappeared off stage as quickly as they arrived revealing the set for the next act of the show. The project was aptly titled 'The Amazing Curtain'.

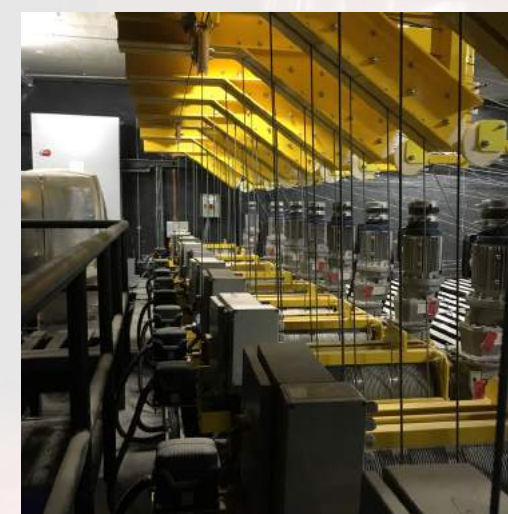
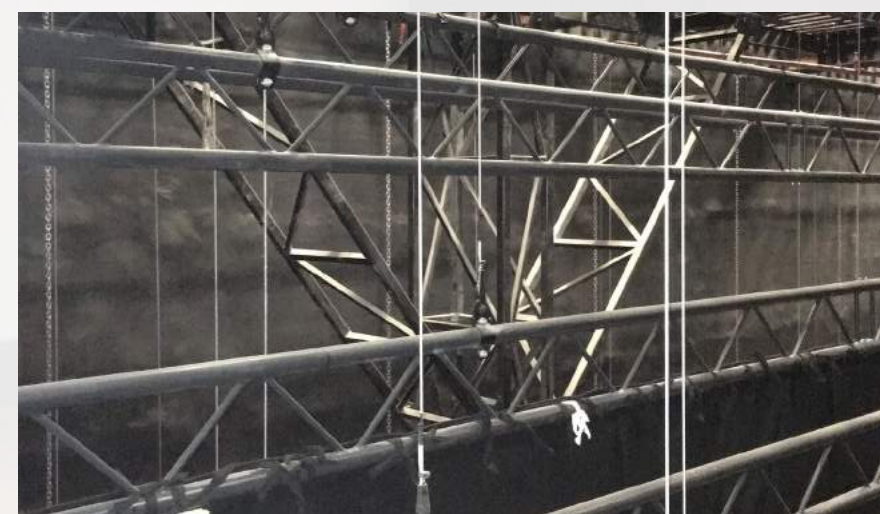
J&C Joel's expert team quickly outlined the method and technology required to make the drapes appear and disappear. They identified that drape retraction units combined with a Kabuki drop system and Laser Gauze (LG001) drapes would create the special effect desired by the client.

A rigorous testing program was then carried out at J&C Joel's testing facility. This saw a replica rig erected and a series of pre-agreed tests undertaken. J&C Joel's team focussed on where the pick-up points were located on the drapes, the line and distance of flight, and how the drapes fell from the Kabuki drops.

The system took 17 days to install over three site visits and during these visits, training was also delivered to the venue crew on how to operate the system and its complex, but user friendly, control system which allowed the venue to run the entire effect from their lighting desk.

Oliver Marns, J&C Joel's Sales Manager who oversaw the project, commented: "We were very kindly invited to the premiere of the show which was attended by over 1,800 other lucky audience members. The effect we had produced worked perfectly and was the first set piece of the show and was greeted by gasps and then applause from the audience.

"It was very rewarding to hear the effect was well received but for us, our brief was delivered when the client expressed their delight at how the system worked and thanked us for the way we had worked with them throughout the project."



J&C Joel were commissioned to provide the stage engineering solutions for the Public Authority for Applied Education and Training (PAAET) in Kuwait.

The PAAET is an academic institute in Shwaikh, it is considered one of the largest institutes in the Middle East in terms of the number of enrolled students. The PAAET offers a wide variety of programs across its different colleges and training institutes.

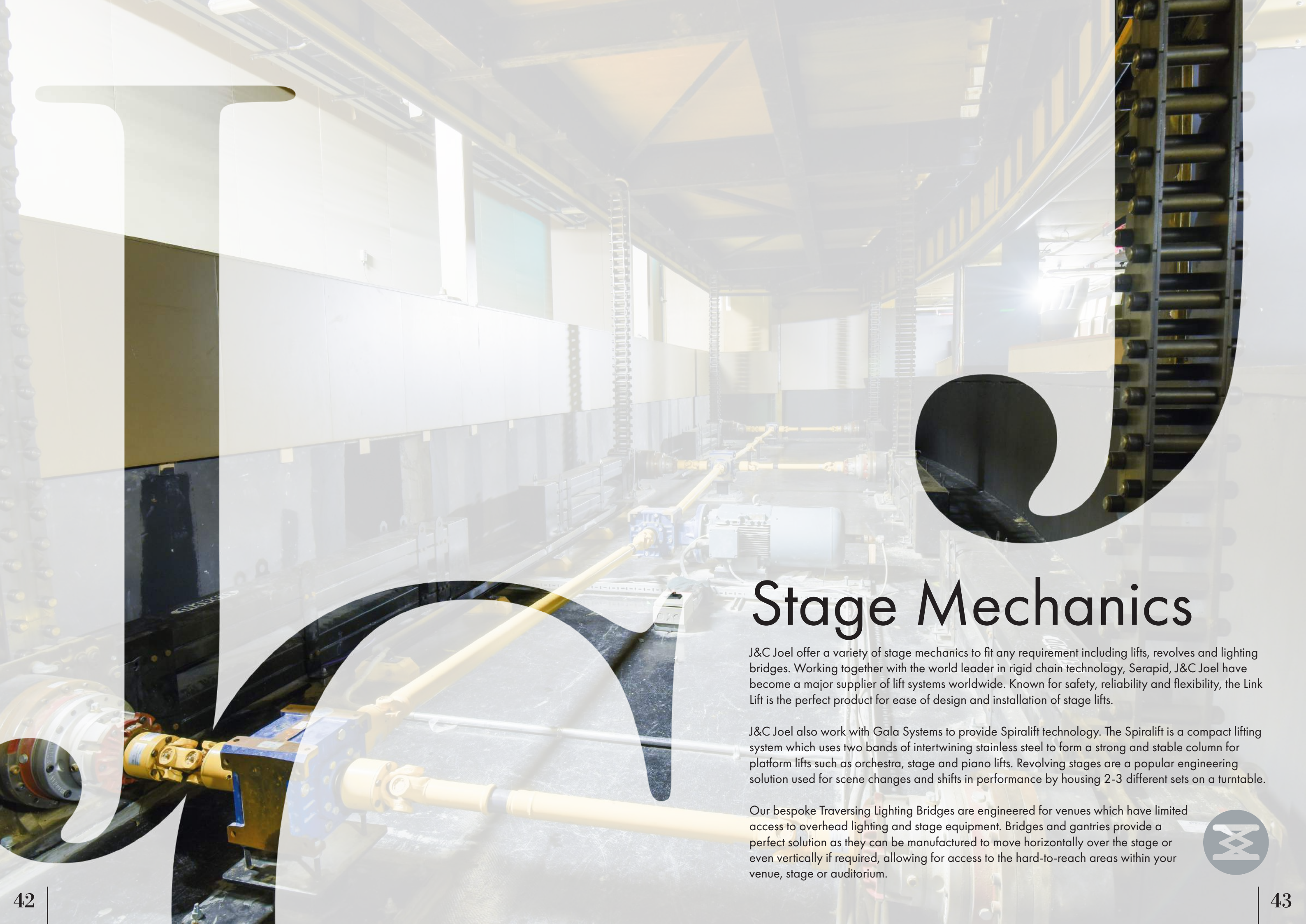
J&C Joel's project engineers installed 22 double braked helical drum winches which were manufactured in-house.

For the Front of House curtains a motorised Unibeam curtain track was installed and Velvet (VEL003) curtains were hung from it.

A mid-stage and upstage manual curtain track was also installed which deployed black Premier Wool Serge (WS090) masking drapes.

Two adjustable proscenium towers were installed with a top suspension and rolling beam assembly and a bottom sunken floor guide within each tower there were two platforms and lighting rails for adjustment with an external cat ladder for access.

J&C Joel's team also installed a 13.7m wide aluminium modular truss film projection screen and a 16m wide by 7m drop rail Zetex fire curtain. Controlled by a bespoke touch screen pendant control system.



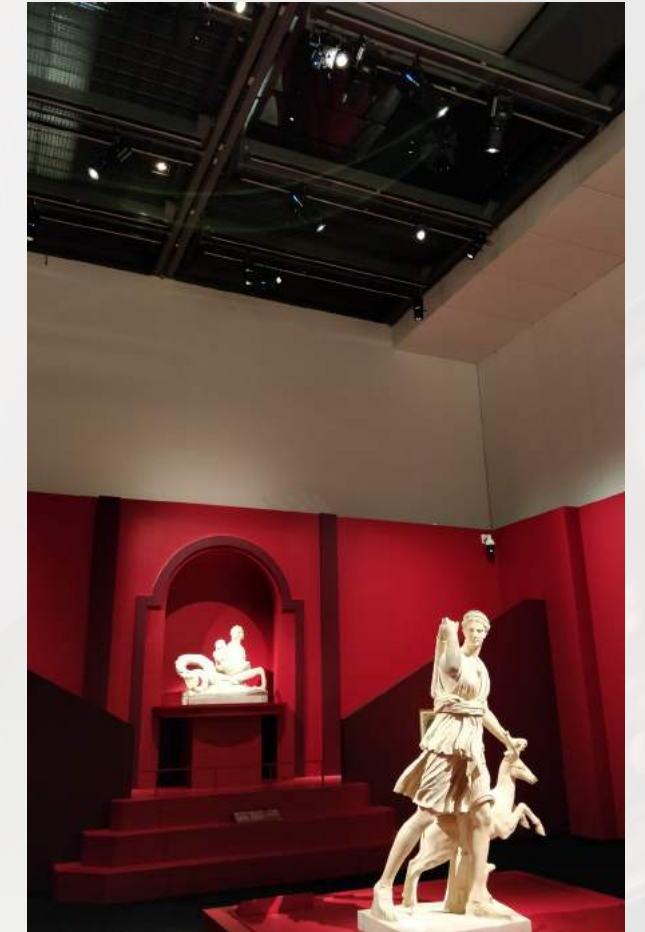
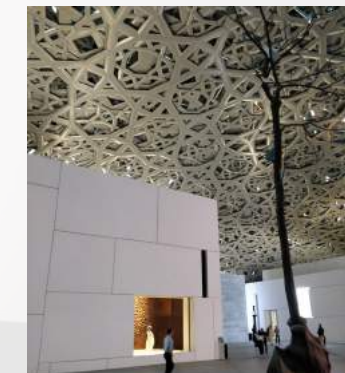
Stage Mechanics

J&C Joel offer a variety of stage mechanics to fit any requirement including lifts, revolves and lighting bridges. Working together with the world leader in rigid chain technology, Serapid, J&C Joel have become a major supplier of lift systems worldwide. Known for safety, reliability and flexibility, the Link Lift is the perfect product for ease of design and installation of stage lifts.

J&C Joel also work with Gala Systems to provide Spiralift technology. The Spiralift is a compact lifting system which uses two bands of intertwining stainless steel to form a strong and stable column for platform lifts such as orchestra, stage and piano lifts. Revolving stages are a popular engineering solution used for scene changes and shifts in performance by housing 2-3 different sets on a turntable.

Our bespoke Traversing Lighting Bridges are engineered for venues which have limited access to overhead lighting and stage equipment. Bridges and gantries provide a perfect solution as they can be manufactured to move horizontally over the stage or even vertically if required, allowing for access to the hard-to-reach areas within your venue, stage or auditorium.





When work started on the Louvre in Abu Dhabi, J&C Joel, were called upon to provide the stage engineering solutions for the cultural venue.

Louvre Abu Dhabi which opens in 2017 is a universal museum which has been built at a reported cost of £530m. Its very name is testament to what is an unprecedented alliance of an intergovernmental agreement between the emirate of Abu Dhabi and France, through one of the highest level of cultural co-operation ever created between two sovereign countries.

J&C Joel provided two packages for the venue. The first was for the auditorium where engineers installed all the secondary steel work, 48 fixed dead hung bars and eight line-shaft winches with a safe working load of 500kg, overload and slack line detection.

The team also supplied and installed an 11.5m wide polichinelle bottom roller projection screen and an 11.5m projection screen masking made from IFR Premier Blackout (PB001) measuring 11.5m by 4m drop. An 11.5m wide top roller screen which deployed an 11.5 by 6.3 projection screen was also fitted along with a top motorised roller black out system that deployed 11.5m wide Premier Blackout (PB001).

A pair of Erail tracking systems were installed in the auditorium with each deploying 3.5m by 6.6m rigid panels to close out the auditorium upstage window bay.

J&C Joel also provided the drapery package for the auditorium which consisted of Front of House curtains manufactured from IFR 500gsm black Velvet Velour (VEL001) which were hung from three Emerald festoon curtain mechanisms. An intermediate acoustic curtain manufactured from IFR black Velvet Velour (VEL001) was also supplied along with an upstage anti-glare curtain which was installed in front of the large window bay which deployed 100gsm Sharktooth Gauze.

At the rear of the auditorium a dual helical drum winch was installed to motorise a tempest sound proof video projector housing. All of which was controlled by a JR Clancy Scene Control 5300. The second phase of the project required J&C Joel supplying and installing 228 travelling beams within the temporary gallery and children's museum.

The traversing light beam system enabled a variable lighting system for a range of artistic pieces and sculptures to enhance the details and texture of the public viewing. The system was a traversing belt drive system consisting of a rectangular modular frame with each beam having an integrated motor gearbox and encoder allowing individual and precise movement.



J&C Joel manufactured and installed perimeter drapery to run around the outside of the Multi-Purpose Hall at the ACC Liverpool.

The 75 metre by 50 metre Multi-Purpose Hall has a capacity of 5,000 people and can be split into four sections via moveable acoustic walls and doors.

J&C Joel manufactured and installed more than 10,000sqm of overlapping Jomeleon swags to dress the ceiling of the Multi-Purpose Hall (MPH) of the Arena & Convention Centre Liverpool.

The bespoke ceiling swags measured 20m x 6m and were made from blue Jomeleon (JOM600B), which was chosen specifically for its striking appearance.

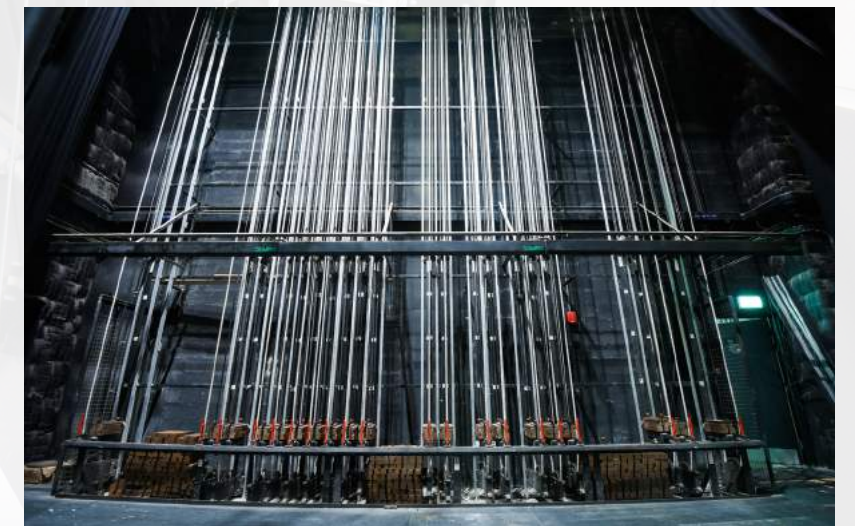
When pleated or backlit Jomeleon shows fantastic iridescent qualities. The fabric is perfect for masking the pipes and ducts of the MPH's ceiling and helps to present the hall as a viable venue for staging corporate events, conferences, seminars and live performances.

J&C Joel designed the arrangement to create an overlapping, shimmering canopy of colour extending from the hall's central lighting gantry. When not in use, the swags could be stored in custom made storage bags secured to the gantry and could be easily deployed and secured to the facing walls using bungees combined with the eyelets sewn into each end of the drapes.

J&C Joel's Project engineers also installed full height Premier Wool Serge (WS090) curtains to run around all four sides of the outer perimeter of the arena. They were hung on tracks which were installed from specialist bespoke brackets that fitted around the outer perimeter from the ceiling and walls with tracks running all the way around. The track was a motorised walkalong Triple E Unitrack system with heavy duty T Drive motor unit. All the drapes retracted into large full height storage areas with doors on so they completely disappeared.

We can supply a range of Control Systems, from a simple push button for a tracking system, to an automation control for a Power Flying System. We can manufacture and supply controls to suit any requirement from bespoke hand held controls to wall mounted units.





In one of the company's largest installations to date J&C Joel carried out a complete fit out of Zayed University's Abu Dhabi campus auditorium installing a complete rigging system, stage dressings, stage machinery and an acoustic shell for the venue's stage.

A total of 55 suspension bars for lighting, scenery and stage drapery were installed above the auditorium's stage, 22 of which are powered by motorised hoists capable of operating at a speed of 0.6 metres per second. A further 20 suspension bars were installed which are raised and lowered using a seven-line manual counterweight system, each set with a safe working load of 750kg.

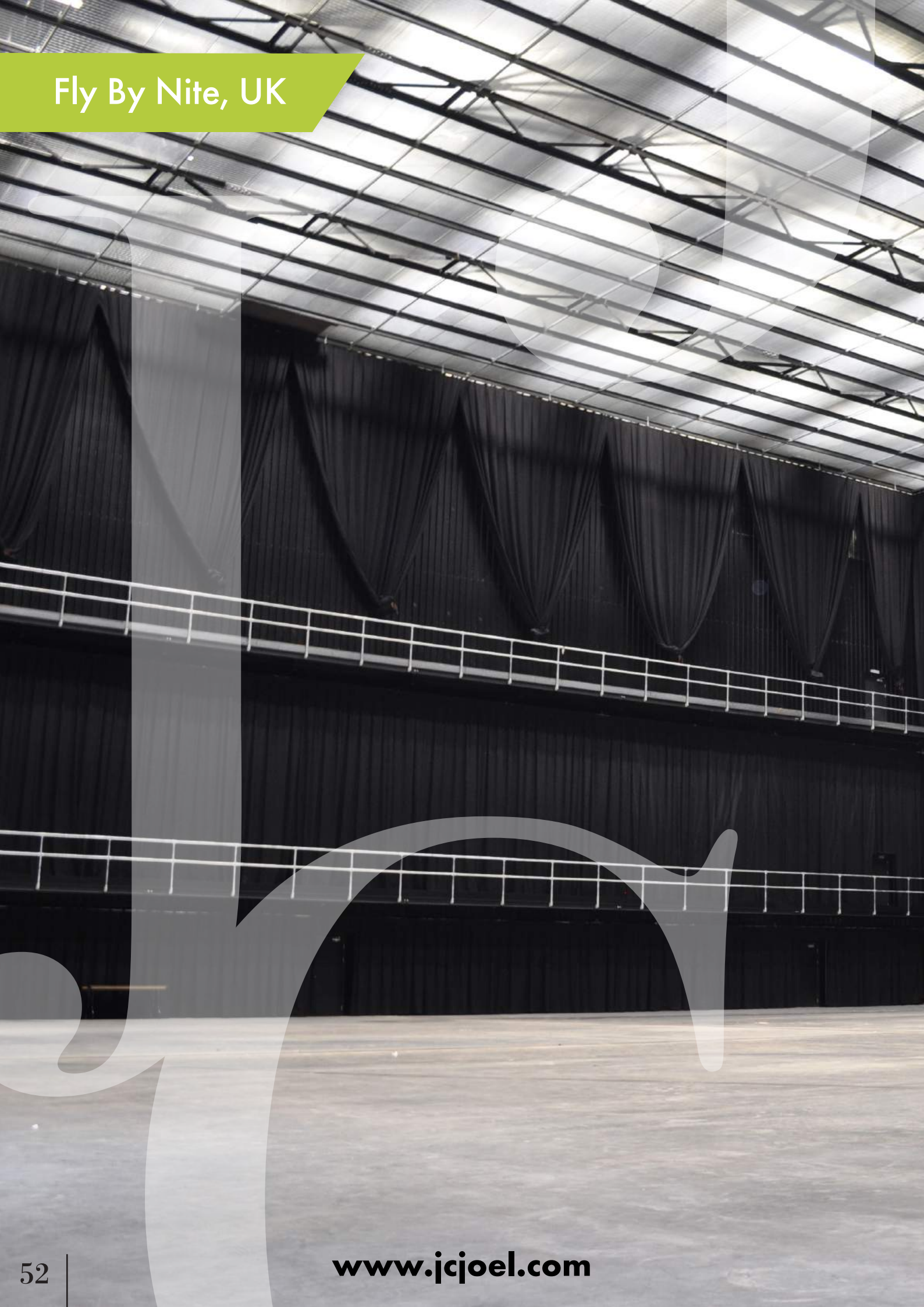
The venue's Front of House Curtains were manufactured from a grey Heavy Velvet Velour (VELH041), custom dyed to match the colour of the hall's architectural features. These were suspended from a motorised Unibeam track capable of operating at speeds of up to 1.5 metres per second. Stage masking curtains were manufactured from black Standard Wool Serge (WS001) and hung from 12 dead-hung suspension bars above the stage floor.

A white Cotton Cyclorama Canvas (CAN041) and white Sharktooth Gauze (ST014) backdrop measuring 12 metres wide was mounted on suspension bars to the rear of the stage. The auditorium's rigging systems are operated via a fully automated control system.

J&C Joel also designed and laid the semi-sprung acoustic flooring spanning the stage, side wings and orchestra lifts, which was constructed with rubber pads and acoustic wadding between its layers to reduce travelling sound. The stage floor behind the Front of House Curtains was black with a removable "wearing" layer on which sets were placed, while the stage area to the front of the curtains had a black American walnut top finish and was used to stage prestigious events and ceremonies.

A complete lift system was engineered consisting of four stage lifts and an orchestra lift that can be used in various configurations thanks to a bespoke control system. Each lift was raised and lowered by six Serapid rigid chain LinkLift™ systems and powered by a single motor.

The shell consisted of 10 customised aluminium extrusion frames to which reflective acoustic panels are attached. The panels were manufactured with an undulating surface that is designed to direct sound toward the audience. The top of the shell was sealed with a series of hinged ceiling panels hanging from suspension bars above the stage.



In advance of its completion, J&C Joel were approached by FBN Rehearsal Studios for advice in relation to perimeter acoustic drapery for their new state of the art rehearsal facility which boasts 1,600m² of uninterrupted floor space, height clearance of 18.5m and a 500-tonne weight capacity in its roof.

Following detailed discussions, J&C Joel were asked to manufacture almost 4000m² of acoustically tested black Premier Wool Serge (WS090) drapery to give the new studio 360-degree coverage.

J&C Joel's Project team surveyed the site and produced a full set of DWG drawings to ensure all doorways, gantry's and other obstructions were factored into the manufacturing process.

Once manufactured, J&C Joel's Project team installed over 300m of ladder truss from which the drapery was hung. This was hung from the main roof steels and catenary cables were carefully positioned vertically through a mesh walking grid and terminated to the ladder truss.

Once installed, J&C Joel sent down the Projects team to finish the drapes in situ to ensure all items were exactly as Studio Manager Scottie Sanderson required. As there were ongoing building works taking place at ground level access plant was unavailable therefore each bar was hoisted individually attached with the drape 18m in the air and terminated to the roof steels. Once the team could access the floor using machinery the truss was pinned and connected.

J&C Joel's Nick Falkner, who lead the Project team on this job, noted: "The remarkable aspect of this job was the sheer size and weight of the drapes and the challenges we had to get them suspended in the air with the majority being 18 metres tall. Numerous factors had to be considered such as the natural stretch of the fabric to ensure all the drapes hung just off the floor."

FBN Studio Manager, Scottie Sanderson, said: "Not having much experience with drapes, this was one of the more challenging procurements for FBN Rehearsal Studios. The team at J&C Joel were fantastic to work with throughout the complete process. Oliver Marns was extremely helpful with clear and straightforward advice and guidance throughout.

Nick Faulkner and his team battled against some tough hurdles to ensure the volume of drapes were hung correctly in time for our first inbound clients. Watching a seamstress tailor black Wool Serge at a height of 9m in a scissor lift isn't something you see every day – nothing was a problem."



J&C Joel designed, manufactured and installed a stunning 21 m x 20m Festoon system in the Venetian Casino in Macau.

The Venetian Macao is a luxury hotel and casino resort in Macau owned by the American Las Vegas Sands company. The Venetian is a 39-story, casino hotel on the Cotai Strip in Macau. The 10,500,000-square-foot (980,000 m²) Venetian Macao is modelled on its sister casino resort The Venetian Las Vegas, and is the seventh-largest building in the world by floor area. The Venetian Macao is also the largest casino in the world, and the largest single structure hotel building in Asia.

J&C Joel's team were engaged directly by the casino owners to provide the Front of House Curtain, Valance, Legs and Festoon system. The Festoon System, better known as Emerald Track, is a J&C Joel design and has been used in numerous venues across the globe from opera houses through to touring shows.

On this project, J&C Joel undertook the design, fabrication, pre-build and installation of the track. As each Emerald track is designed to meet the exact requirements of the venue, J&C Joel's project engineers had to take account of site conditions and the scale and weight of drapery the track was going to fly in order to provide a viable solution to the client.

The Front of House drapes were manufactured from 520g/m² Heavy Velvet Velour and each of the swaged panels measured 1 m in width. With 50% fullness added to the drop of the curtain to produce the swag effect, the result was a visually stunning curtain.

The masking valance was manufactured from the same material and was dressed on site by J&C Joel's Senior Drape Technician to ensure there was perfect symmetry of the swags across each half of the stage. This was a technical challenge due to the size and weight of the drapery.

The team also designed the legs complete with attachments for the existing curved truss arch and with an allowance for "swags" to account for the side stage balcony platforms. This design allowed different settings from swag to full straight side stage masking.

56 live projects

J&C Joel exports to more than 80 countries from our strategically placed facilities. We pride ourselves on providing our customers with a turnkey solution for any project, anywhere in the world; no matter how big or small.

Key



Drapery Solutions



Acoustic Solutions



Manual Rigging



Power Flying Systems



Stage Mechanics



Control Systems

French International School, Asia



Kwai Tsing Theatre, Asia



Museum+, Asia



International School, Ho Chi Minh City, Asia



Genting Casino, Asia



Museum of the Future, Middle East



Sharjah Arts Centre, Middle East



Dubai Arena, Middle East



American School of Jeddah, Middle East



SAACCS, Middle East



Caudan Theatre, Africa



Malvern College, UK



Bristol Old Vic, UK



Brighton Dome, UK



Bloomsbury Theatre, UK



The Malthouse, UK



Hurst Pier Point College, UK



Coal Drop Yard London, UK



Hull Arena, UK

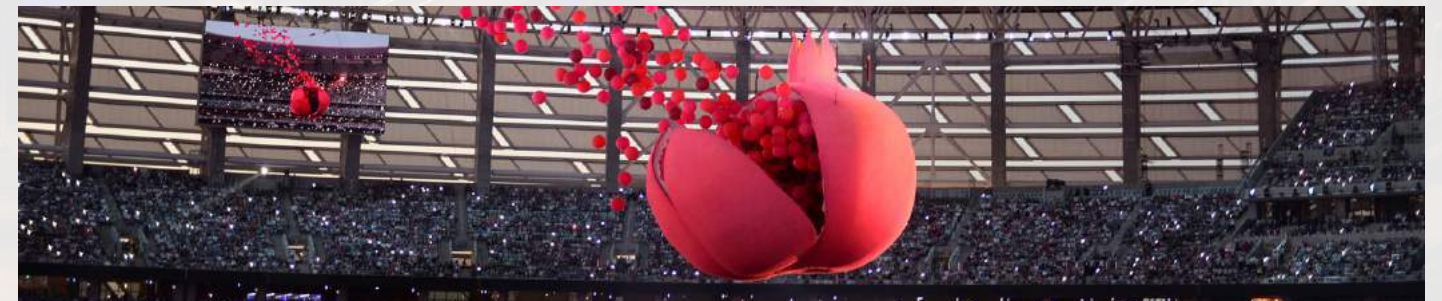


Experts In

Fabrics & Flooring



Drapes & Shapes



Stage Engineering



Tracks & Drapery Systems



To download or request our brochures and other technical information please visit our website www.jcjoel.com or contact our expert sales team in your local region for assistance.

www.jcjoel.com

Royal Shakespeare Theatre, UK



UK
Europe
Africa
Middle East
Asia
Australasia

J&C Joel Limited

Corporation Mill, Corporation Street,
Sowerby Bridge, Halifax, HX6 2QQ

+44 (0) 1422 833 835

www.jcjoel.com

Accreditations

