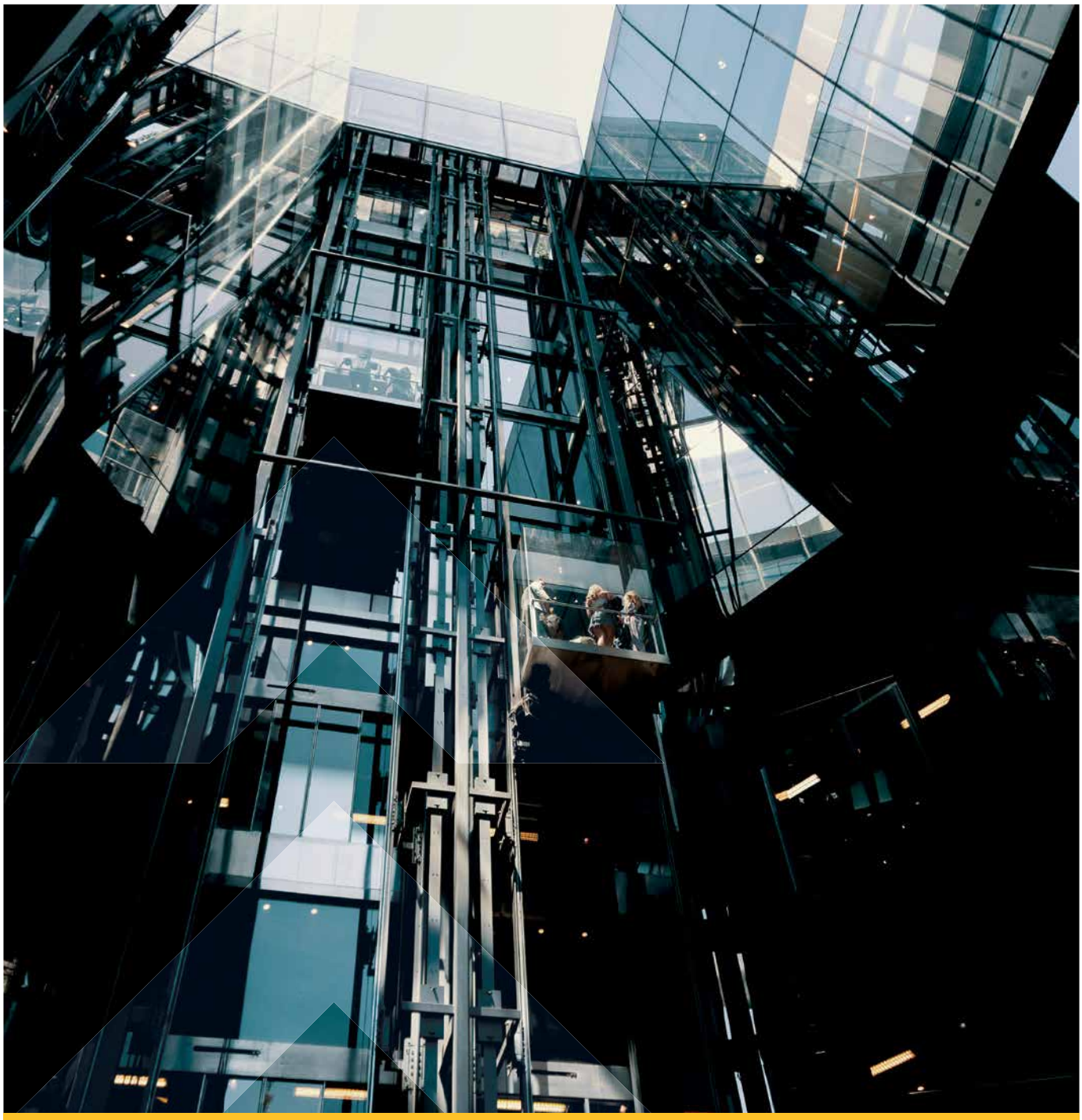
lift Industry News

A UK-BASED MAGAZINE WITH A GLOBAL OUTLOOK FOR THE LIFT AND ESCALATOR INDUSTRY



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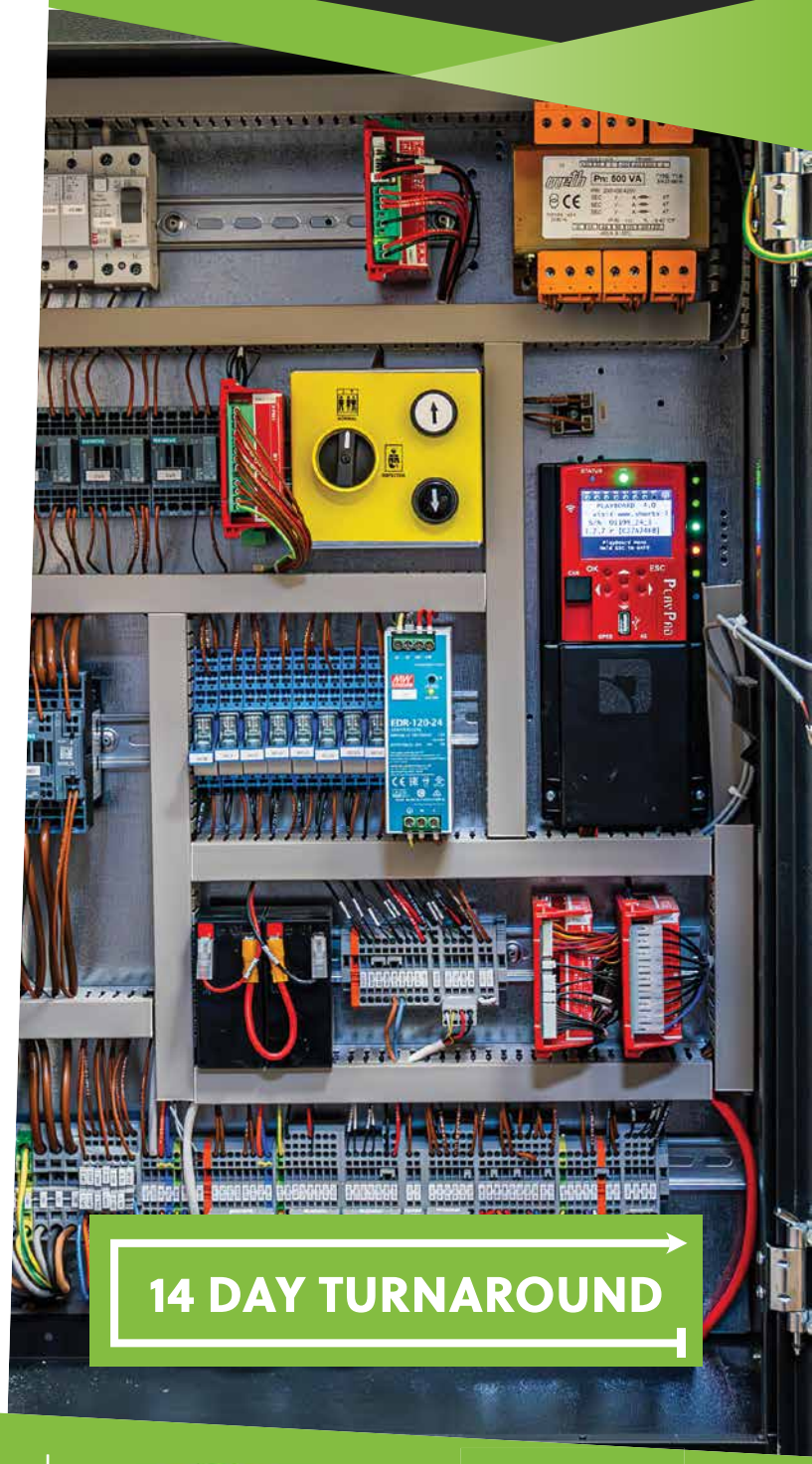

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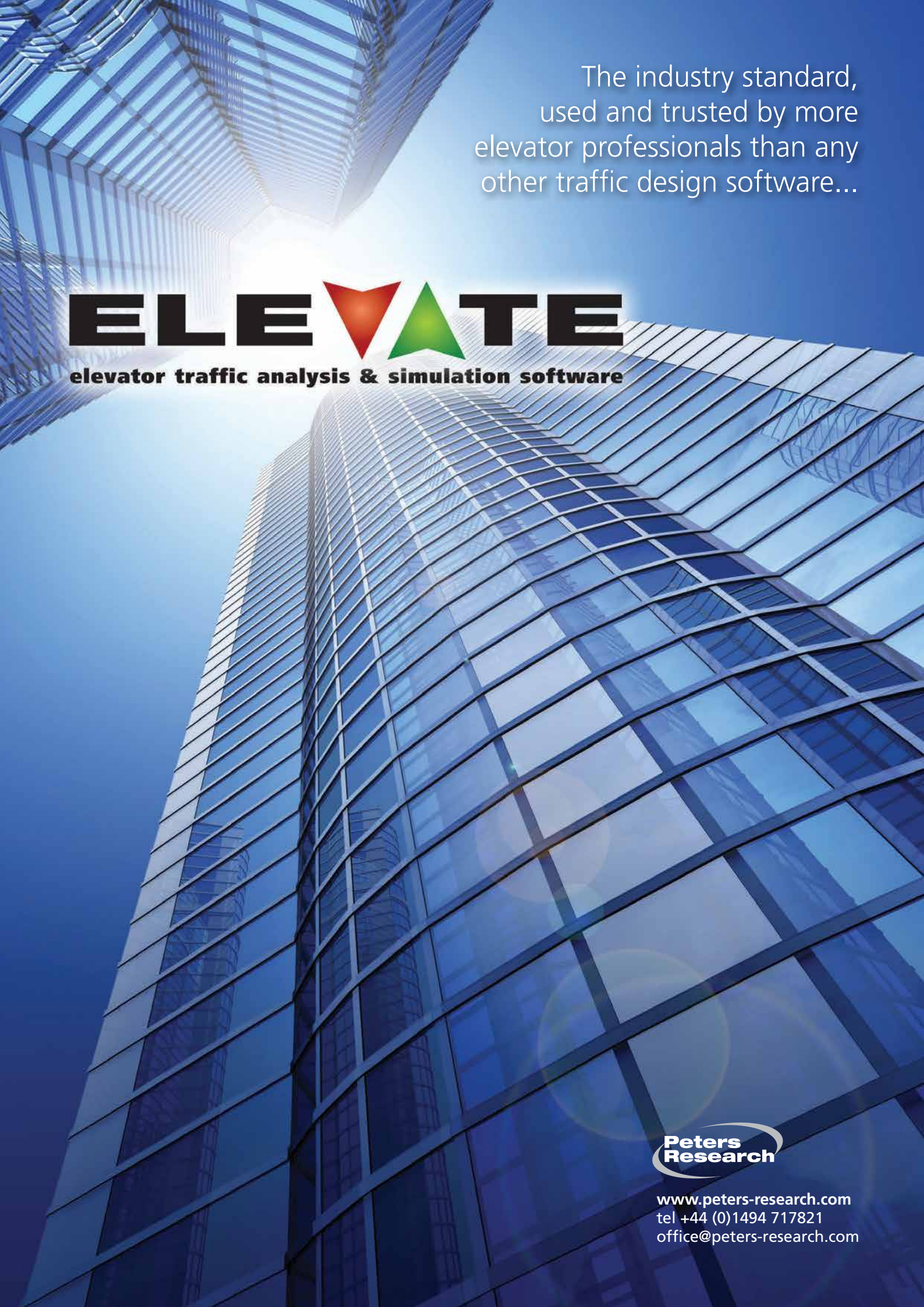
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BRIAN PRESTON
OVERVIEW

For the spring edition we welcome Brian Preston, Global Business Manager – Elevator at CP Automation.

A very Happy New Year to you all and welcome to the January 2025 edition of Lift Industry News. I am delighted to be the first Guest Editor of the year, particularly in a year which sees LIFTEX back in June. CP Automation will be there (Stand C22!) and I look forward to meeting many old friends and new there. You can see who else will be at Excel on page 25.

As a component and services provider, we tend to exist in our own small bubble of expertise, so it is great to be able to learn from the wider industry. In particular, the talk given by Paul Burns from D2E at the Lift & Escalator Symposium last year on the topic of battery failure in lift passenger emergency services was fascinating and really resonated with our message that it is critical that the UPS (ARD) systems we supply are properly maintained. Paul's talk is replicated in the very useful Knowledge Base section on page 53.

Paul and his team are also featured in The Interview on page 36. D2E stands for 'Design to Elevation' – concept to execution, so it has a very diverse portfolio. Paul reveals in the interview that someone suggested D2E could be 'Down to Earth' which is a good attribute for any company!

At CPA we pride ourselves in offering solutions that prevent, and also resolve, unreliable lift operation and Len Halsey talks in A Point of View on page 12 about Rogue Lifts and the various reasons for this. I have also written about the hidden disruptors of transients, spikes and surges and the importance of an enhanced Surge Protection Device (SPD) on page 21. Poor power quality is a growing problem and identification of the causes, impact and correction of related issues is a big topic. As Len says: the rogue lift reflects much of what needs to be addressed in our industry; but with problems comes opportunities, collectively as an industry we should look to take on the challenge.

Someone willing to take on a challenge in 2025 is Karis Walker, the incoming President for LEIA. She is passionate about our industry and in her role at TKE is very involved with the Building Safety Act, ensuring her colleagues understand the impact in daily operations. Read more about Karis on page 28.

LEIA is always on top of standards, and it was interesting to read Hywel Davies update on the Building Regulations new Gateway two regime for applications for higher risk buildings on page 30. BS 9991:2024 "Fire safety in the design, management and use of residential buildings – Code of practice" is now published and Hywel recommends lift consultants are familiar with this standard.

In a world where the pressure can sometimes seem overwhelming there is good advice from our four-legged correspondent in the Ted Barks column on page 73. January may see many of us making a New Year's resolution or two and getting fitter, including your mental health fitness may well be near the top if the list. Ted has some good advice on how to achieve this!

I'll certainly be taking on board some of Ted's advice to achieve my goals of getting healthier and improving my work/life balance but whatever your New Year's resolution may be, on behalf of Lift Industry News I wish you a happy, healthy and successful 2025.

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CALENDAR 2025/26

February 06 - 08

Lift City Expo 2025
February 6-8
CAIRO, EGYPT

March 06

CIBSE Lifts Group AGM & Seminar
March 6
LONDON, UK

May 06 - 08

Expo Elevador
May 6-8
SÃO PAULO, BRAZIL

May 08 - 11

World Elevator & Escalator Expo 2022
May 8-11
SHANGHAI, CHINA

May 15 - 18

Asansör
May 15-18
ISTANBUL, TURKEY

June 11 - 12

LIFTEX
June 11-12
LONDON, UK

June 17 - 19

Elevcon
June 17-19
LISBON, PORTUGAL

July 11 - 13

Elevators & Funiculars of the World
Second International Congress of Industrial Heritage
July 11-13
SANTIAGO, CHILE

September 24 - 25

Lift & Escalator Symposium (LES)
September 24-25
KETTERING, UK

October 14 - 17

Interlift
October 14-17
NUREMBERG, GERMANY

November 19 - 20

elementalLONDON
November 19-20
LONDON, UK

November 19 - 21

GEE Global Elevator
November 19-21
MILAN, ITALY

February 10 - 12

Cairo Lift Tech

February 10-12

CAIRO, EGYPT

May 20 - 23

World Elevator & Escalator Expo

May 20-23

GUANGDONG, CHINA

September 21 - 23

The Elevator Show Dubai

September 21-23

DUBAI, UAE

October 20 - 22

Lift Expo Poland

October 20-22

WARSAW, POLAND

LIFTEX 2025

Now in its 37th year, LIFTEX is the UK's only dedicated exhibition for the lift, escalator and access industry and takes place only once every three years. The 2022 event saw a 22% increase in attendance, attracting 4,000 attendees – the biggest yet - with over 100 exhibitors from 12 countries, including the UK, Croatia, Germany, Italy, Spain, Sweden, Switzerland and the USA. LIFTEX features an exhibition of over 100 suppliers, alongside a programme of free seminars. Hosted by industry experts, sessions will cover topics such as safety, evacuation, modernisation and the latest standards and regulations.

ELEVCON 2025

Elevcon 2025, the 24th International Congress on Vertical Transportation will be held June 17-19, 2025 in Lisbon, Portugal. The Elevcon Congress brings together subject matter experts, professionals and enthusiasts from across the industry to explore the latest developments, exchange insights, and foster collaboration. With a three-day professional programme featuring presentations, panel discussions, workshops and networking opportunities, there will be ample opportunities to learn, connect and expand horizons. Dr. Marja-Liisa Siikonen, M.Sc, Ph.D. from MLS Lift Consulting Ltd., Finland is once again the Elevcon Congress Chairwoman & Programme Manager.

POINT OF VIEW

The Rogue Lift; what it says about our industry

by Len Halsey

This may sound like a strange topic for discussion but I'm sure we are all aware of situations where previously reliable lifts start to experience problems and become a 'rogue unit'. The term 'rouge unit' has been around for as long as I can remember but it is applied to lifts that are unreliable, suffer from erratic operational problems, intermittent faults and generally don't perform very well. These lifts tend to develop a reputation of being a 'bad lift', and even if the problems are resolved the name sticks and is difficult to admonish.

The question here is why this happens, how problems manifest themselves and what are the consequences? An interesting point is that many problems can go unseen until a situation arises and the lift doesn't operate as it should. A good example of this is load weighing settings. Incorrectly set, or suffering from 'drift' over time, it is not something visually apparent but can have a detrimental effect on the everyday operation of the lift, starting torque, anti-nuisance function, the load non-stop feature and car overload all depend on a correctly set load weighing device. As an aside, how often is load weighing calibration checked as part of the maintenance regime? Another example is the failure of a car fan. Not something most people would notice in everyday use; until a car full of people are stuck in a stifling confined space waiting to be released.

While these may appear somewhat peripheral, other unrecognised faults can have far more serious consequences. The car alarm button doesn't work. We can all appreciate the seriousness of this and potential consequences. Another major unrecognised issue sits around the failure of back up batteries, a point highlighted by Paul Burns in his presentation to the Lift and Escalator Symposium in September.

Paul's presentation looked at the rate of failure of back up batteries in essential areas such as alarms, emergency release and lighting. Based on Paul's, and fellow researchers' findings, the failure rates were both surprising and worrying. In an audit of 2,600 units almost 20% had reported failures of battery backup systems with autodialler back up representing almost half of the failures.

In examining the cause of the failures the research showed there are a number of factors involved. These included things such as the type of battery, the battery location and issues around battery monitoring systems. The failure rate is highest in MRL installations where backup systems are positioned in inaccessible locations within the shaft or on the car top. Add to this unreliable battery condition monitoring systems and it is understandable why such problems exist.

In these circumstances the only way to test backup systems is to disconnect the power supply and check the operation of the equipment concerned. This brings its own challenges. With batteries connected to different supplies and access difficult, even in control cabinets, the task becomes almost impossible to implement.

Having identified the problem, the key issue is how to resolve it. Here there are ways to start address the challenge and help make things a little easier. Terminology is a powerful means of changing attitudes and I would argue that emergency backup systems fall within the term 'critical life safety systems'. This would certainly focus attention and bring accountability for ensuring they are regularly maintained, checked and working properly.

Additionally, irrespective of the type of maintenance contract, these checks should form part of every maintenance visit. This would require developing strategies to access the batteries and have a means to easily isolate them and test the function. I would argue this should be something that should be provided by design and would certainly be covered within the obligations of CDM regulations.

The LOLER inspection provides a further means of verifying if the backup systems are working correctly. I am aware that the scope of LOLER inspections may not include checking rescue systems or emergency lighting but given their importance I would suggest it is something that should form part of the inspection, together with checking the firefighting and evacuation controls.

Obviously this would be just as challenging for the inspector as it is for the service engineer, but, what if the supply to all backup batteries came from a single source that could be easily disconnected via a separate isolator? This has its technical difficulties given battery backup sits within different devices, controllers, drives and autodiallers, etc. but it does offer significant benefits for easy checking of the batteries. This, combined with better condition monitoring would give early indication of poor battery health.

This approach could form part of the specification and although I'm sure some would object, the enlightened attitude would be that this helps manufacturers and service providers to improve safety and reliability.

Improved access and means of testing can also be supported by the IoT and AI as Paul has suggested. These can help improve monitoring of batteries and communication with the service provider when things start to deteriorate and would be an essential part of addressing the current situation. However, even with these technical advances I would still advocate a check on site to ensure the systems are healthy and operate correctly.

With batteries forming the main plank of back up in emergencies their health and reliability is essential and any move to an easier and more reliable means of checking this major component has to be the objective. The added weight of categorising these components as 'critical life safety systems' should help to aid the process.

While the failure of battery backup systems is one aspect of how lifts can 'go rogue' there are many others. In some instances the problems are perceived rather than actual, 'the doors are slow', 'I wait ages for a lift', 'it's so slow, takes ages to get to my floor', are just a few examples of complaints made when in fact the lift is working properly.

Looking at the wider picture there are multiple reasons, from a poorly installed or adjusted unit to one with little or no maintenance. Also factor in software issues, poor interfaces and service engineers who aren't necessarily trained on the product and it can easily be seen how these things arise.

Without question a unit suffering from an intermittent fault or a situation where the service engineer is unable to find the fault and resorts to a POR (power on reset) are the most frustrating to deal with. A contributing factor here is the level of access service engineers have to check software and adjustable parameters. These access levels are limited by design and the need to call on the services of a technician or tester is often the next step, but only after a long and trying period where the local team have unsuccessfully attempted to resolve the problem.

Frustrating and time consuming delays can also arise when service engineers follow a track of pursuing a complex technical fault when in fact the problem is something quite basic. Here you would hope that fault logging will provide a quick route to a prompt solution. However, even here things can go wrong. The service engineer isn't familiar with the equipment, the fault log itself is part of the problem or there is a misunderstanding of what the fault code means.

While these are just some of the difficulties that arise, other causes can centre on non-lift phenomena that manifest itself as a lift failure. Chief among these is 'stack effect'. This is where air pressure differential between the bottom and top of the building causes air to circulate via the lift shafts, which are in effect chimneys, and result in the lobby landing doors failing to close properly. From a user's perspective the car doors appear to have fully closed but the lift doesn't move as the landing doors are held open by the pressure of high speed air passing through the narrow gap between the landing doors. Repeated pressing of the door open button and the failure of the landing doors to close is seen as a lift problem when in fact it is nothing of the sort.

Other non-lift problem can arise with equipment that interfaces to the lift(s). Fire alarms, emergency power signals and main isolators with software issues detecting non existing 'spikes' have all been sources of 'lift problems', when in reality the lift failure comes courtesy of an obscure and intermittent problem elsewhere.

The rogue lift though does highlight major issues related to maintenance and training, which often appears to be seen as an expense rather than an investment. With maintenance prices spiralling downwards, and companies looking to keep costs at a minimum, training suffers. This can mean that if you are unfortunate enough to experience a rogue lift you are likely to have something of a problem on your hands, that may take some time to resolve.

Another factor that can add to frustration levels is the use of subcontractors to undertake major repairs such as replacing ropes/belts and machine works. This can take time to organise and implement and is often seen as a disjointed approach to service provision by the owner.

Hopefully the move to higher levels of remote component monitoring, the IoT and AI will lead to the improved identification of faults before they become failures and, should the worst happen, the problem can be quickly resolved.

The rogue lift reflects much of what needs to be addressed in our industry; but with problems come opportunities, collectively as an industry we should look to take on the challenge.

REFERENCES

Paul Burns presentation and paper to the Lift and Escalator Symposium 2024: *Blackout: Exposing the Hidden Risks of Battery Failure in Lift Passenger Emergency Systems*

Paul Burns, Paige Smith, Darren Lancaster, Osama Alshhoumi

BIOGRAPHY

Len spent a major part of his career with Otis, holding senior technical and managerial positions in construction, modernisation and major projects before joining Canary Wharf Contractors in 1998. Working with vertical transportation contractors, consultants and interface trades Len was responsible for lift and escalator installations on major high rise developments before being appointed Vertical Transportation Design Manager in 2002.

Working with signature architects and major international VT consultancies, Len worked providing design solutions in complex high rise buildings and across the developments portfolio, including infrastructure, retail, residential and public transport projects. He was appointed Project Executive for Vertical Transportation Systems in 2015 and fully retired from Canary Wharf in 2023. He is now an independent consultant.

He is a former chair of the CIBSE Lifts Group

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SAFETY FIRST

Our expert looks at the risks around luggage and trolleys on escalators and gives some advice on how to avoid them

LUGGAGE ON ESCALATORS

In my 44 years' experience in the industry, I have always said that whenever you introduce something to an escalator or moving walk you can also introduce other hazards, so you have to be careful. This subject is no different and whether you love them or loathe them they are with us to stay. Architects tend to dislike things that interfere with aesthetics and this is one of those things. That having been said, I have lost count of how many accident investigations have landed on my desk involving luggage on escalators. It is a well known fact that luggage is involved with many incidents on escalators and the outcomes can be quite severe. It is also a known fact that shopping trolleys and luggage carts on escalators can also cause severe accidents, my MSc dissertation at the University of Northampton published in 2005 researched this very subject. (copy available on request)

Accidents can be caused as a result of:

- Passengers losing their balance negotiating access onto/from an escalator with such items.
- Trolleys rotating and becoming jammed causing a back up of passengers.
- Egress being prevented thus causing a back up of passengers still being fed to the egress end.
- Luggage becoming unstable and descending uncontrollably

This list is not exhaustive.

With the last bullet point I would point out that luggage breaking loose on escalators make great bowling balls and I have seen a number of people wiped out in one go!

It is for these reasons that responsible owners and designers consider/install luggage prevention obstructions in areas where luggage and/or trolleys may be causative of accidents.

Designers and owners should be aware of standards and risks associated with such designs.

There are a number of applicable standards and guidance notes:

- EN115-1
- EN115-2
- BS5656 part 2
- SAFed EMW

There are a number of associated clauses in standards but I am going to highlight the main ones.

EN115-1

EN115-1 (2017) is the main standard for the manufacturing and installation of escalators and moving walks. In section 4.10 it identifies "misuse by transporting other items than persons (e.g. shopping trolleys and push chairs) and points towards sections 7.4.1 d, A.4, Figure G.4 and Annex I)

A4 covers: "Measures to prevent access of shopping trolleys and baggage carts" and A.4.1 General: If there is a reasonable foreseeable risk that shopping trolleys and/or baggage carts can be taken onto escalators or moving walks, adequate measures shall be taken to eliminate risks and access shall be prevented if the following conditions are given:

a. for escalators: where shopping trolleys or baggage carts are available in the area around;

b. for escalators: where shopping trolleys or baggage carts are in an area not close to the escalator where it is reasonably foreseeable that they are taken onto the escalator;

c. for moving walks: where shopping trolleys or baggage carts are not intended to be used on a moving walk.

NOTE: It is in the responsibility of the owner to define the width of the trolleys, that it's ensured that the trolleys can't fit between balustrade and barrier.

The below is the crux of the matter as so many owners are getting it wrong:

A.4.2 Barriers: If barriers are used, the following requirements shall be fulfilled:

a. The barrier shall be installed at the entrance only. An installation at the exit is not permitted in the unrestricted area.

b. The design of the barrier shall not create another risk.

c. The free entrance width between ends of the newels and barriers - and between barriers itself - shall be at least 500 mm and less than the width of the type of shopping trolley or baggage cart which will be used.

d. The height of the barrier shall be between 900 mm and 1100 mm.

e. The barrier and its fixation shall withstand the following load: At a height of 200 mm a horizontal force of 3000 N applies.

NOTE This force results from an impact of a chassis of a shopping trolley, according to EN 1929–1 [5],/ baggage cart loaded with 160 kg moving with a speed of 1,00 m/s.

f. The barrier shall be fixed, preferably at the building structures. It is also permitted to fix it at the floor plate. In that case, when the defined forces apply, there shall be no permanent deformation and increased/ additional gaps.

EN115-2

EN115-2 is for the improvement of safety of existing escalators and moving walks and defers to EN115-1 as the best source of good practice.

BS5656 part 2

BS5656 part 2 (2004) draws attention to risk associated with location in section 7.3.

In edition 5 I drew attention to the dimensional risks of placing items too close to a handrail and the subsequent risk of entrapment, so here are a few pointers as to good and bad practice.

Luggage barrier too close to escalator handrail presenting trapping hazard

Crowding on an escalator. Consider the consequences of people being fed into an obstruction. This often causes passengers to jump over the sides of an escalator rather than risk crushing.

A rotated trolley on a moving walk. Again, consider the consequences of people being fed into an obstruction.

Check signage is in place. Passengers will often ignore signage but it is needed when a hazard exists.

Consider if signage needs to be in different languages

Risk of luggage falling off a trolley

There have also been accidents where children have fallen out of pushchairs in descent when not strapped in.

Good practice when both escalators (or moving walks) are up running.
Bad practice when either both or one escalators (or moving walks) is down running as people can be fed into an obstruction.

Good practice when moving walk (or escalator) is running down.
Bad practice when the moving walk (or escalator) is up running as people can be fed into an obstruction.

Absolute NO NO – luggage and/or trolley prevention devices being installed at both ends. It breaches EN115. A.4.2 a) The barrier shall be installed at the entrance only. An installation at the exit is not permitted in the unrestricted area.

When luggage and/or trolley prevention devices are installed it means that your escalator is direction committed and should not be run towards the luggage and/or trolley prevention obstructions.

BIOGRAPHY

EurIng Prof. David Cooper MBE
BSc (Hons), MSc, MPhil, CEng, FIET, FCIBSE, FSOE, FCGI,

David Cooper is the CEO of UK based lift consultants LECS (UK) Ltd. He has been in the lift & escalator industry since 1980 and is a well-known author and speaker. He holds a Master of Philosophy Degree following a 5-year research project into accidents on escalators, a Master of Science Degree in Lift Engineering as well as a Bachelor of Science Honours degree, Higher National Certificate and a Continuing Education Certificate in lift and escalator engineering. He is a co-author of "The Elevator & Escalator Micropedia" (1997) and "Elevator & Escalator Accident Investigation & Litigation". (2002 & 2005) as well as being a contributor to a number of other books including five editions of CIBSE Guide D. He is a regular columnist in trade journals worldwide including Elevation, Elevator World, Elevatori and Lift Industry News. He has presented at a number of industry seminars worldwide including in Thessaloniki, Munich, Shanghai, San Francisco, Melbourne, Zurich, Barcelona and Vienna as well as numerous presentations within the UK.

He is also a Founding Trustee and Chairman of the UK's Lift Industry Charity which assists industry members and/or their families after an accident at work. In 2012 David was awarded the silver medal by CIBSE for services to the Institution.

David also Chairs the charity that runs the Lift Symposium and is an Honorary Visiting Professor at The University of Northampton. He also sits on the Board of CIBSE. In 2021 he was awarded the Sir Moir Lockhead Award by the SOE for 30 years dedication to safety in the lift & escalator industry.

In 2023 David received an MBE in the King's Birthday Honours list for services to lift & escalator engineering.

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THREE STEPS TO RELIABLE LIFT OPERATION

Poor power quality can easily impact the function of your lift, affecting passenger experience and causing unplanned downtime.

By proactively monitoring the quality of the power supply and implementing any necessary mitigation solutions, you can keep your lifts running smoothly.

Start by following these three steps:

1. Prior to starting a modernisation, undertake a power quality audit to identify any issues that may not be a problem for the existing, older equipment but may well will be an issue for newer control systems using microprocessor-based control.

2. For an existing installation, employ either static or portable measurement devices to better understand power issues that may be causing premature component failure, frequent lift downtime and communication errors for example.

3. Install an uninterruptible power supply (UPS) to ride through any power loss events and ensure the lift remains in service.

CP Automation offer a range of services to support these three steps including quality panel mounted and portable metering solutions, on-site assistance with measurement and diagnosis of the quality of a building's supply and a full range of UPS solutions.

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TRANSIENTS, SPIKES AND SURGES - THE HIDDEN DISRUPTORS

Our Guest Editor, Brian Preston from CPA looks at the importance of SPDs (Surge Protection Device) in lifts.

Since the late 1800s, electric lifts have been used to allow the world to expand building to ever-increasing heights. There are more than 330,000 lifts in the UK, located in many places including hospitals, train stations, shopping centres, flats, and airports — even ski lifts! In UK housing, it is estimated that there are more than 50,000 operational lifts, with at least half of them installed more than 25 years ago. However, often the only trips people remember are when the lift drops them at the wrong floor, when the lift breaks down and they become trapped mid-floor, or when the lift is out of order altogether.

As lifts have become more technologically advanced, there is a greater need for a regular preventive and proactive maintenance programme. Failure to keep up with maintenance will harm performance, slow response time, increase downtime and raise costs.

Proactively addressing the most critical and sensitive elements in the elevator systems is the surest route to greater availability and reduced downtime.

In normal operation, the software and the hardware operating today's elevators are more reliable than in the past, but it is also extremely sensitive to fluctuations and instability in the power supply. In modern buildings, it isn't just the voltage surges from lightning or the utility company that cause component failure, unexplainable operation issues and lift downtime. These issues are why your typical surge protector will not be effective in limiting that downtime and ensuring lift reliability. A different type of technology is required.

The typical Surge Protection Device (SPD) is voltage-triggered only. The clamping operation of the SPD will occur at some set point above the 'normal' supply voltage. This operation, while successful in mitigating the damaging impacts of isolated lightning or utility supply events, is largely ineffective when dealing with the real source of the problem. The operation of highly inductive loads such as power supplies, transformers and contactor coils, generates transient events which can create a voltage surge much higher than the original power supply voltage and typically last between one and 30 microseconds. Symptoms of transient over-voltages include:

- Premature component failure and unexpected power events
- Frequent plant and equipment downtime

- False zero crossings of the sine wave (zero crossings are the instantaneous point at which no voltage is present)
- Communication errors and ghost errors

Transients, spikes and surges are hidden disruptions to reliable lift operation. You can easily spend hours trying to determine the reason for a lift to breakdown — and still fail to find the cause.

In addition, conventional surge arrestors and protectors only operate once the voltage hits a certain threshold — by which point, significant let-through voltage has built up. A conventional SPD will also need to have its cartridges replaced after it has operated. At CPA, we work with SineTamer® an engineered transient disturbance filter that is unique because it can take multiple hits and continue protecting even after an incident has occurred. Additionally, it minimises let-through voltage to less than 10%, preventing issues further down the line.

WHY IS THIS IMPORTANT?

In Montevideo, Uruguay, the 30 lifts at the World Trade Centre were plagued with constant, recurring lift failures with five to seven daily random 'failures' for each lift which would include deprogramming or failure of HMIs on each floor (22 floors) and faults that took the lifts out of service and required manual intervention to reset. In addition, PCB failures were guaranteed one Saturday in every month when the diesel generator was tested, even though traditional SPDs were installed. As a test, SineTamer® units were installed in two lifts - there have been no further recurrences of the previously reported problems since, and the solution has now been implemented on every lift.

As well as mitigating the effects of power supply issues, it's important to maintain a constant power supply during unplanned outages to allow safe evacuation of passengers or provide full lift operation for a defined period of time. One option is to size and install an appropriate uninterruptible power supply (UPS) as a secondary supply source. Once installed and commissioned, the UPS should be integrated into the lift control system to provide feedback when there is a failure with the UPS, or if the batteries are low, to inform the control system that reliable lift operation is possible. It is essential that a strict maintenance policy is implemented for the UPS to ensure it will operate when needed – this can usually be provided by the UPS supplier with various levels of service available.

BEHIND THE SCENES AT LEIA

The LEIA team update us on what's in store for 2025.

Nick Mellor, MD

Welcome to the new LEIA President and Vice-President

This month we are delighted to welcome Karis Walker, Head of Commercial at TK Elevator as LEIA President and Andrew Renwick, MD at Caltech Lifts, as Vice-President.

We would like to thank Paul Turner for his effort and dedication as LEIA President for the past two years. Paul will continue to work closely with LEIA to develop the strategy as ex-President and Ex Officio member of the board.

"It is with great enthusiasm that I step into the role of President for the Lift and Escalator Industry Association (LEIA). As I take on this next step, my primary focus will be to continue the positive work of Paul Turner in bringing an innovative approach to LEIA's operations, particularly in the areas of members contracting and pioneering solutions to key topics within the elevator industry. By defining clear and transparent strategies and embracing new ideas and ways of working, we aim to continue growth in LEIA's productivity and deliver best-in-class guidance and support services to our members.

I am especially excited to engage both with LIFTEX and with the positive work LEIA is doing in relation to the Building Safety Act, supporting our members in understanding the implications of this legislation and the essential steps needed to meet their obligations."

Karis Walker, LEIA President 2025

"I'm honoured to take on the role of Vice President of LEIA. One of the aspects I'm most looking forward to is continuing our work on shaping a strategy that focuses its ambitions over the next 12 months, as well as defining the association's longer-term goals for the next 3-5 years. This important work was initiated last year by our outgoing President, Paul Turner, and will now be championed by our incoming President, Karis, whom I will support in every way possible.

LEIA has achieved remarkable milestones over the years and, for an organisation of our size, it truly punches above its weight compared to other industry bodies. By collaborating with our members to drive innovation, enhance safety standards and promote sustainability, I'm confident our association will continue to grow and thrive."

Andrew Renwick, LEIA Vice-President

"It has been an honour to serve as President of LEIA for the past two years, and beforehand as Vice-President and board member since 2019.

During the past years much has been achieved by the association and as I move into an Ex Officio role with the board, there is of course still much to focus on.

As Ex Officio board member, I will chair ongoing strategy discussions which will include a clear direction for the association and its members, with a proactive sustainability commitment for our industry.

We are delighted to hand over the Presidency to Karis who is equally committed to developing inclusive strategies within the industry. I am very much looking forward to continuing to support the board and entire LEIA team and its members for many years to come as a remaining board member."
Paul Turner, outgoing LEIA President and Ex Officio board member

From left to right Andrew Renwick, Karis Walker, Paul Turner

Building Safety Seminar

We held our first Building Safety Seminar at the end of November for members which proved very popular. It covered key topics including scope of work, competencies and compliance with valuable insights from all our speakers.

Welcome to the latest LEIA members

Welcome to our latest members Polar Lifts & Escalators, Alliance Platform Lifts, Caledonian Lifts Manchester Ltd and AW Parry Lifts.

Micky Grover-White, Technical Manager

Distance learning update

Good luck to all the distance learners starting courses this month. The LEIA Distance Learning Course offers a comprehensive technical training programme tailored to deepen candidates' understanding of lift and escalator engineering. Developed by industry experts, this course is crafted to tackle the unique challenges of a mobile workforce and the evolving demands of British and European standards.

It's organised into full and half units. Full units explore essential topics like engineering principles, lift technology, electric traction lifts, and hydraulic lifts, while half units focus on specialised areas such as lift and escalator technology, safety, and commercial management.

The cut-off dates are:

May enrolment – closes 15th April.

September – closes 15th August.

January – closes 15th December.

Karen Slade, Head of End-Point Assessment

LEIA Assessment

2024 was a busy year for the LEIA Assessment team. Our apprentice intake has tripled, and we've delivered on all three standards we're approved for. We've also increased our assessor team and are looking to expand our portfolio in 2025.

A reminder for all apprentice employers that the Apprentice Minimum Wage will see an 18% increase this year. From April, it rises from £6.40 to £7.55 an hour.

Oliver Greening, Operations Director

We start the year by launching LIFTEX, as registration opens this month for visitors. We've been busy behind the scenes working on this edition's exhibition layout and format. As we're facing the biggest improvements in building safety in nearly 40 years, a large focus is on the educational element of the show. We've extended the seminar programme for the first time to allow for more content. We want visitors to get the most value from a day at LIFTEX. We'll be announcing the full line-up at the end of this month. You can also read our LIFTEX preview on page 25.

Registration opens this month for LIFTEX 2025, the tri-annual event for the industry. What can you expect from the event this summer?

Reflecting on LIFTEX 2022, Show Director Oliver Greening recalls an extraordinary comeback after the pandemic. "It was a pivotal moment for us, and the response from the industry was overwhelming. We shattered previous records with 4,000 attendees and 100 exhibitors from the UK and around the world."

Building on that success, the 2025 show is poised to be even larger. Due to unprecedented demand, the exhibition floor has expanded to its largest-ever footprint, and every stand sold out within months. "Selling out so early has allowed us to focus on adding even more value to the show – including a comprehensive seminar programme," Greening added.

REGISTRATION IS NOW OPEN FOR: LIFTEX 2025

WITH THE FULL EXHIBITOR LINE-UP NOW CONFIRMED, HERE'S WHO YOU WILL MEET:

- A&A Electrical Distributors Ltd
- A&S Lifts
- ADVANCED HANDLING LTD
- ALGI
- Alimak
- ALLIANCE PLATFORM LIFTS LTD
- AMALGAMATED LIFTS LTD
- Anywhere Sim
- ATWELL INTERNATIONAL LIMITED
- BEW Lift Division
- Borel lift d.o.o.
- BRAXOS
- BRUGG LIFTING AG
- CARLOS SILVA SAU
- CEDES AG
- CMAlifts
- COBIANCHI LIFTTEILE AG
- Construct Lifts
- CP AUTOMATION LTD
- CTV Lifts, S.L.
- Dewhurst Limited
- Digital Advanced Control Ltd
- DRUCEGROVE
- DSW SOLUTIONS
- E P Elevators
- Eastwood Park Training Centre
- Edmolift Lyfthaus
- Electrotech
- ELEVATED ENGINEERING SERVICES N.W. LTD
- ENCODERS UK LTD
- ESM SOFTWARE
- EVANS TURNER
- FIELDBOSS
- Fujitec
- Garan Elevator Load Weighing
- Gartec
- GENEMEK
- Global1Partners
- Goodwoods Ltd
- GRD Lifts & Engineering Services Ltd
- G-TEX STAINLESS LTD
- Hissmekano
- HORSLER LIFT SERVICES LIMITED
- Husbands Lifts
- Hydroware
- ILION CO LTD
- IMEM LIFTS / GLOBAL LIFT EQUIPMENT
- INITA

- International Lift Equipment
- J&L Elevator Components
- Jackson Lift Group
- KAPOK 88
- KLEEMANN
- Kollmorgen UK
- KONE Global Spares
- Lester Control Systems Ltd
- Lift & Controller Products Ltd
- Lift Industry News
- MAGNET SCHULTZ LTD
- MEILLER Aufzugtüren GmbH
- MEMCO by AVIRE
- Modusystem B.V.
- MONTANARI GROUP
- MP LIFTS
- Murray Lift Group Ltd
- NDC Elevator Drives
- ONELIFT
- Phoenix Lifting Systems Limited
- Power Control Ltd
- PR Lift Equipment
- PRNS Building Services
- RALOE UK LTD
- ReRopes Ltd
- RIMEX METALS
- Robert Gerrard - Lift Plan
- SafeLine Group UK Limited
- Safety Assessment Federation Ltd
- Sassi Lift Systems Ltd
- SCHAEFER
- Schmersal Böhnke+Partner
- Schneider Steuerungstechnik - LiSA
- Shorts
- SICOR ITALY SRL
- SIMS4LIFTS
- Stepless By Guldmann
- SYNTIUM LIFTS
- Taylor Lifts
- Terry Lifts
- Thames Valley Controls
- The Lift Box S.L.
- The Platform Lift Company
- TK Elevator
- UKAB-L
- UNIVERSAL LIFTING HIRE SERVICES LTD
- VEGA SRL
- WECO Elevator Products Ltd
- WINDCREST LIFTBITS LTD
- ZAGRO AG
- ZIEHL-ABEGG UK LTD

FREE SEMINARS & THE LATEST GUIDANCE ON BUILDING SAFETY

This year's seminar programme will be extended to accommodate more valuable content. With the line-up still being finalised, Greening emphasised the importance of providing timely and actionable information. "We're committed to ensuring visitors leave equipped with the knowledge they need in today's evolving safety and compliance landscape. We will have the latest on Building Safety and its implications for the industry."

Keep your eyes peeled for our 24-page show preview in the Summer issue of Lift Industry News for more details on exhibitors, seminars and show highlights.

*Exhibitor list correct at time of publication.

11 – 12 June 2025
ExCeL, London

Registration is free:
www.liftexshow.com

For show updates follow on ***LIFTEX Show***, on X ***@LiftexShow*** and Instagram: ***https://www.instagram.com/liftexshow***

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A LIFE IN THE DAY

The inside scoop from LEIA's new president, Karis Walker

FIRSTLY, TELL US A BIT ABOUT WHAT YOUR NEW ROLE AS PRESIDENT ENTAILS.

I would say the primary role is support for the LEIA team and representation and advocacy for members. There's a relatively small team behind the scenes at LEIA, and what is achieved is amazing. I am really looking forward to supporting them with that output and helping to drive innovation. LEIA looks at the challenges of the industry, what we can do to better understand the challenges members are facing and provide practical advice and resources in response. LEIA is unique like that – active and responsive, in a very challenging industry. It offers a direct line to guidance and advice where people can reach out and receive help.

I'm not aware of any other industries that have something that delivers in the same way that LEIA does. Being a supporting and guiding hand in the coming 2 years will be a great way to give back to an industry that I've enjoyed a great career in so far.

WHAT ARE YOU MOST LOOKING FORWARD TO IN YOUR ROLE AS PRESIDENT OF LEIA?

I'm most looking forward to working more directly with some brilliant industry colleagues, being able to contribute more actively, helping to shape the future of the organisation and adding to the great value that's already offered. I feel very passionately about the lift industry – I've worked in it for the majority of my career – it's great to be a part of something where you can have an impact. I'm excited to be President in a LIFTEX year, and also as the new Building Safety Act is released. It's a massive piece of impactful legislation that's going to affect the whole industry and I'm looking forward to being able to support that from a commercial perspective.

HAVE YOU GOT ANY SPECIFIC AIMS AND OBJECTIVES FOR THE NEXT YEAR?

I think, to an extent, it's a case of seeing what comes up! For LEIA, we're working hard on the strategy for the organisation, we want to future-proof it and ensure we have a clear direction and know what we're trying to achieve for the industry.

I'm also looking forward to supporting LIFTEX, making sure we have a great turnout – it promises to be the best year yet! Within my own organisation, I'll be supporting colleagues with the Building Safety Act, ensuring they understand the impact and managing the requirement for new actions and processes through our daily operations. From a personal perspective, I'll be continuing to work on my legal qualifications.

WHAT IS YOUR DAY JOB?

I am Head of Commercial for TK Elevator UK and Ireland. I support anything that has a contractual or legal element. A typical day for me would be reviewing contracts, resolving client concerns and supporting colleagues with understanding the legal elements of a range of documents including tenders. My primary role is to help to manage and mitigate the company's risk exposure.

WHAT'S ON YOUR DESK RIGHT NOW?

We have just gone through our insurances review, and the insurance market is quite challenging at the moment, so that's been a significant amount of work. Understanding the impact of policy exclusions is a tricky task, there are a lot of things now that insurers are reluctant to include. It is very easy to just renew a policy without understanding what's changed, so that's been a big area of work and something that historically LEIA has looked into on the membership's behalf. It really is a market-wide challenge. Also, the Building Safety Act, I know I've mentioned it before, but it is a massive item on my agenda. I am trying to create initiatives to support departments with ongoing training, firstly raising awareness of what the new legislation will mean and how much it will affect everyone on the contracting chain, then looking at how we can deliver ongoing training as the Act evolves.

Karis and Olive

WHAT HAS BEEN ONE OF YOUR MOST MEMORABLE ACHIEVEMENTS IN YOUR CAREER SO FAR?

I've been at TK Elevator for over 11 years now and they have provided me with some amazing opportunities. A key highlight though was winning a contract for the HS2 project. I had the opportunity to work with an amazing team of colleagues for a lengthy period, understanding the requirements and preparing the tender for the work. We worked with departments across Europe, lots of specialists within our business - everyone put so much time and effort in, so to be awarded the contract was such a proud moment. Even now, watching the team within our HS2 department, it's so great to think that a few years back we were just reading documents and pulling things together, and now there's a whole team of colleagues working on a project that TK Elevator will be a part of for many years to come – it's amazing.

WHAT IS THE BEST PART OF YOUR DAY?

Getting started in the morning, when you have got the whole day ahead of you and you're full of enthusiasm and fresh drive for the day. I feel most organised at that point. I will inevitably get knocked off course on occasion, by 'solution opportunities' as a colleague coined, but setting my intentions with optimism is the best part of my day. It's great to then be able to look back and feel like you achieved the things you set out to.

WHAT DO YOU LIKE TO DO OUTSIDE OF WORK?

I love to be active, so anything sporty or outdoors like skiing and hiking. It's especially great if it involves taking my dog, Olive, along. I rescued Olive via a charity, from Ukraine at the beginning of the war, and we have had some great adventures. This summer we went on a staycation, hiking and sightseeing; it was great fun. I've been known to do a Tough Mudder or two – the more adventurous the activity the better! I also love cooking – I'm a sucker for a good farm shop – and entertaining family and friends – the simple things in life.

WHAT DOES 2025 HOLD FOR YOU?

I'm really looking forward to the year ahead. It'll be great to be involved in everything LEIA has planned, including LIFTEX, where TK Elevator are exhibiting. I'm also looking forward to getting some more of my law qualifications under my belt, and I've definitely got to get another trip with Olive planned. I quite fancy another hiking holiday, so we'll see where we explore this year.

THE NARROW GATE

Now that the new process to apply for approval of plans under the Building Regulations in England are fully in force, there is much debate about what is required. The new and more onerous Gateway two regime for applications for higher risk buildings is causing disruption and delay, with fewer than half of proposals approved, and many taking longer than anticipated. Hywel Davies considers the new requirements.

After the tragic deaths of 72 people in the Grenfell Tower fire in 2017, the Building Safety Act was passed. The Act creates a new regulatory regime for planning, design, construction and ongoing management of higher risk buildings, residential buildings which are seven storeys or more or over 18 metres in height. Since these buildings all require lifts to be installed, Gateway 2 is a significant event for the lift industry.

New planning rules, "planning Gateway one", introduced in 2021, have settled down. But the new design Gateway two only came into force in October 2023. And Gateway three, for completion, has yet to take full effect as buildings have to go through Gateway 2 and then be built. But Gateway three is coming!

It is important to stress that the application process has changed, not the technical requirements of the building regulations.

Nonetheless, it is proving a challenge for many in the industry. It is new, unfamiliar to the industry and to those implementing them at the Building Safety Regulator (BSR).

Well over half of all applications are being rejected and many are taking longer to approve than the regulations anticipate. So what is the problem? And what can be done by the lift sector to improve the prospects of a successful application?

The first challenge is that the new application process is linked to a new approach to building control activity. The industry has grown used to the building inspector being available to provide advice and guidance when there is uncertainty about what the building regulations require. Design teams came to rely on inspectors to assist with decisions about how to comply with regulations. Under the new regime, building inspectors are registered with the BSR.

And they are inspectors, not advisers, and certainly not designers. If a design team does not know how to comply with a specific requirement, the building inspector is not in a position to help. If the application does not show how compliance is being achieved, it is likely to be rejected.

A further problem, first identified by Dame Judith Hackitt in her review of building regulations and fire safety, is the widespread misunderstanding of the difference between regulations and statutory guidance. The building regulations technical requirements are set out in Schedule 1, Part A, Structure, Part B, Fire all the way through to the newest, Part T, for toilets. Each Part of Schedule 1 sets out the functional requirements related to that technical aspect of the regulations. Further technical requirements, such as the commissioning and testing regulations, 40-44, which must also be complied with. These requirements are the law.

For fire there are 5 functional requirements, of which the most relevant to the lift sector are:

"B1. The building shall be designed and constructed so that there are appropriate provisions for the early warning of fire, and appropriate means of escape in case of fire from the building to a place of safety outside the building capable of being safely and effectively used at all material times."

A design for a higher risk building must demonstrate that it will deliver, if built, a building which has appropriate means of escape. That means that there must be a way for everyone in the building to escape to a place of safety, using safe routes that are protected from spread of fire and smoke. And there is the vexed issue of how those unable to use stairs, whether due to disability, age, pregnancy or early parenthood or for any other reason, are to be enabled safely to leave the building.

Unfortunately, it seems that many in the industry are more familiar with the statutory guidance set out in the Approved Documents (ADs) than with the functional requirements. The ADs "give practical guidance about how to meet the requirements of the Building Regulations 2010 for England". It is also important to note that "Approved Documents are intended to provide guidance for some of the more common building situations."

This becomes a problem when the inspector responsible for assessing an application wants to see evidence of how the design will meet the functional requirements. That means that they want to see evidence that the design delivers "appropriate means of escape in case of fire". They will not be looking at how the design follows guidance for "common situations" when assessing an application for an uncommonly tall higher risk building. They will want the design team clearly to demonstrate that their design, if built, would satisfy requirement B1 and enable **all** occupants to escape safely. That may be difficult if it does not include some provision of evacuation lifts, with protected routes to reach them.

There is also the question of how lifts will help to satisfy requirement **B5 (1):** "The building shall be designed and constructed so as to provide reasonable facilities to assist fire fighters in the protection of life." What firefighting lifts will be provided to comply with this requirement?

The critical issue here, the exam question, is "how does our application demonstrate clearly and unambiguously how we have addressed these requirements (and all the others) and that our proposed solution will deliver a building that complies with the relevant regulations? That is what the registered building inspector and fire engineer determining the application will assess.

Publication of BS 9991:2024 "Fire safety in the design, management and use of residential buildings – Code of practice" now provides further guidance on emergency evacuation and the potential role of evacuation lifts, which lift consultants will want to be conversant with. Clause 7.4 deals specifically with the use of lifts for evacuation and fire fighting. This will be the subject of further commentary once its provisions have been digested more fully.

The lift sector can help designers and contractors step back to the legal requirements and set out how proposed lift solutions meet the requirements, including how lift landing doors will protect shafts and lobbies from the spread of smoke. This might use the Approved Document or it may use relevant standards, but it must show compliance with the functional requirements. And robust evacuation arrangements for all occupants will help ease proposals through Gateway two.

BIOGRAPHY

Dr Hywel Davies CChem CSci HonFCIBSE retired in 2024 as Chief Technical Officer from CIBSE after more than 25 years working for the Institution. He was CIBSE's technical director from 2007 until September 2023, after 10 years at the Building Research Establishment and 10 years as an independent consultant. He was awarded an Honorary Fellowship by CIBSE in 2023 – the first to be given to a serving member of staff. He led the government's expert group responsible for reviewing the use and structure of Approved Documents following the Grenfell Tower tragedy and led CIBSE's Covid-19 pandemic response. He has been an active author of and contributor to British, European and International Standards for over 30 years. He was the last chair of the Building Regulations Advisory Committee and is a member of the Building Safety Regulator's Building Advisory Committee, where he now serves in an independent capacity.

THE CIBSE LIFTS GROUP

CIBSE Lifts Group

The CIBSE LIFTS GROUP is converting to a SOCIETY to bring more benefits and recognition to our members

Follow us to be part of this journey

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UPSKILLING >
INFORMATION FORUM >

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NEWS FROM THE CIBSE LIFTS GROUP

CIBSE Llifts Group Annual Seminar

In support of Build2perform the Lifts group met at the Novotel at Excel London on November 12th. It was a great turn out and thank you everyone for the support and travelling to a new location. Hopefully next year we will be at the new CIBSE HQ!

Michael Bottomley, Chair of CIBSE Lifts Group opened the evening with an update on the new CIBSE HQ and a recap of the events this year.

Adam Scott then gave his usual comprehensive update in standards, followed by Paul Burns from D2E talking about BLACKOUT: Exposing the Hidden Risks in Lift Passenger Emergency Systems. Paul presented this excellent paper at the Lift & Escalator Symposium this year and you can read it on page 53.

Chuan Lim from Foster+Partners gave a presentation on the Lusail Plaza Towers: Lifting the Design for Future Flexibility. The Lusail project is a landmark project in Qatar that is envisioned as the catalyst for a new central business district. Four towers are located at the end of the grand boulevard that links the new football stadium to the corniche, the two taller towers stand at 70 storeys, while the other two are 50-storeys-high, all arranged symmetrically around a central plaza.

Nick Mellor from LEIA gave an update on Grenfell phase 2 and means of escape.

Michael then closed the meeting with an update on the move towards a Society of Vertical Transportation Updates, with a plan to launch together with Guide D 2025 the day before LES 2025.

He urged more volunteers to come together to create something for the industry, with expertise to offer and committed to action to truly complete Dr Gina Barney's dream.

BUILD2PERFORM LIVE 2024

Highlights of a great show and exciting news for 2025

Build2Perform Live 2024 had over 3,500 registrations and featured over 70 hours of CPD-accredited content, drawing attendees into thought-provoking sessions led by 125 industry experts and showcasing more than 100 top-tier exhibitors. The carefully curated programme, shaped by CIBSE Divisions, Special Interest Groups and the Build2Perform Live Advisory Committee, delivered exceptional value and insights to all participants.

Day 1 featured a NABERS UK session charting the journey of NABERS (National Australian Built Environment Rating System) from its origins in Australia to its future in the UK under CIBSE's stewardship.

The session delved into the transformative impact NABERS has had on the Australian building industry, driving exceptional energy efficiency and sustainability outcomes. It explored how stakeholders have identified NABERS as the ideal tool to address the UK's decarbonisation goals, reduce the performance gap, and how CIBSE's involvement will help shape the future of NABERS UK as a driving force for sustainability across the UK's built environment.

On day 2 CIBSE President Elect Vince Arnold gave a keynote address that provided valuable insights into the latest updates to Building Regulations, including the Building Safety Act, the Future Homes and Buildings Standard, and critical changes to fire safety protocols.

Day 2 also featured a thought-provoking discussion on Equity, Diversity & Inclusivity (EDI) in the building services industry. The session highlighted how equity, diversity, and inclusion are critical to the future of building design and workplace culture. The panel shared examples of good practices within the sector and offered practical actions that attendees could take to implement EDI principles in their own work and organisations.

In 2025 Build2Perform in 2025 has an exciting future! CIBSE are partnering with Nineteen Group to deliver an enhanced experience for Build2Perform Live exhibitors and visitors in 2025 and beyond as it aligns with elementalLONDON (ExCeL London, 19-20 November 2025) to deliver an event unlike any other in the industry.

With the ethos of advancing the efficiency of buildings at its core, elementalLONDON will deliver a conference and exhibition programme created around the wants and needs of its audience.

This programme combines deep insight with a practical understanding of the challenges faced by building owners, operators, and the entire supply chain.

Attendees can look forward to Build2Perform's hallmark features at elementalLONDON, including CIBSE-approved CPD sessions held across two dedicated Build2Perform Theatres.

Simon Parker, Managing Director of CIBSE Services, says: *"Build2Perform Live has been a mainstay in the exhibition calendar for many years, and we're delighted that it will continue to serve the industry as part of elementalLONDON. Aligning with Nineteen Group through a strategic partnership will allow us to maintain our drive to connect with forward-thinking professionals and young talent alike in an in-person setting at ExCeL London."*

Find out more

https://www.cibse.org/policy-insight/news/cibse-announces-long-term-partnership-with-nineteen-group-for-build2perform-live

https://elementallondon.show/news/elementallondon/strategic-partnership-with-cibse-build2perform-live-for-elementallondon/

2024 CIBSE President Awards Dinner

CIBSE members' outstanding contributions and dedication to CIBSE and the wider building services industry were recognised with medals at the 2024 President's Awards Dinner in October.

The Dinner, held at The Savoy London, highlighted the essential role CIBSE members play in supporting the Institution's mission to promote building services engineering, invest in education and research and support our community of building environment professionals.

Eight gold medals, six silver medals, and eight bronze medals were presented to CIBSE members in acknowledgement of the contribution they have made through long and loyal service, helping raise the profession's profile.

Fiona Cousins, CIBSE President said: *"On behalf of CIBSE, I would like to thank all the CIBSE Medal winners. Their dedication, commitment and support for CIBSE, and the wider building services community, together with their expertise and knowledge have, without doubt, strengthened our industry and raised standards. Every one of them will have a lasting impact on our industry and the individuals they have worked with."*

CIBSE has a new home

CIBSE is moving to its new headquarters at 91-94 Saffron Hill in Farringdon, London very soon! After 44 incredible years in Balham, they are excited to embark on this new chapter, bringing them closer to the heart of the city. The new office reflects the CIBSE vision to be insightful, leading, and challenging.

As CEO Ruth Carter puts it: *"This is a building that CIBSE can be proud of."*

Read more about the relocation and the brand new building at ***https://buff.ly/3zyzUio***

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THE INTERVIEW

Vertical transportation and façade access consultants D2E have been in the industry for over 20 years. Combining specialist expertise and distinctive customer service, Design Director Paul Burns gave an insight to D2E's process, innovation and what success looks like to him.

Firstly, for anyone wondering, could you reveal to us what D2E stands for?

We were purely a design company when we launched, so D2E stands for 'Design to Elevation' – concept to execution. Although someone suggested recently it could be 'Down to Earth', which I actually quite like as an alternative!

Can you give a little insight to D2E?

We've been around for 21 years, providing vertical transportation and façade access consultancy services. We are specialists in our field, with three main product streams:

- Vertical transportation – lifts and escalators.
- Façade access – anything to do with getting to the exterior of the building.
- Working at height audits – helping customers understand their risk.

Each stream has a design element and an asset management element.

What sets you apart as a company?

We live and breathe VT and façade access every day. Because we are hyper-specialists, rather than an arm of a larger consultancy, we can focus on our specialism. We have become attuned to what's needed, new requirements and changing trends, with a great depth of resource and access to first hand knowledge.

We are also an incredibly diverse business, which sets us apart. Our 36-stong team is made up of men and women from a wide range of ages, cultures, ethnic groups and generations, with different viewpoints, experiences and opinions. This mix is so important in enriching collaboration, and the diversity of ideas makes D2E a really fun place to work.

What are your values and how do they influence your day-to-day work?

Our values are recognisable throughout our work, focusing on safety, ethics, quality and sustainability. Our ethics are especially important to us; we're well known in the industry for not accepting gifts, including a cup of coffee! But this decision underpins our desire to be impartial and maintain independence as a trusted voice.

Safety is also a key value for us as we work in a dangerous industry, there are so many hazards in construction. Façade access is all about safety and finding safe access, and we employ the hierarchy of risk to everything we do. On the VT side, safety is obviously also incredibly important, and you can read our LES Symposium paper on battery failure in the Knowledge Bank section. Quality and sustainability are also vital to our work, especially with the drive to carbon net zero, it features in everything we do.

What does success look like to you at D2E?

We have one metric for success – customer satisfaction. Every year we produce a customer satisfaction survey and use the results to drive our approach, making improvements where necessary. We want to know what we can do better, as well as what we did right, acknowledging specific individuals for their efforts as well. It's very easy to only recognise when something goes wrong; we try and buck the trend and celebrate the successes and those that do a great job, including our suppliers.

Can you describe the approach you take with your customers?

It always starts with a conversation. We want to understand what's important to a client, and sometimes the heart of their aim can be lost in the words of a brief. We like to get down to the details and look at their drivers so we can provide the best service possible. We talk about specific targets and priorities, and understand their market and unique approach. Working with such a range of buildings and different clients, we recognise that each set of requirements will be different, so we work to uncover what we need to focus on in order to achieve a successful project.

It sounds counter-intuitive, but it's not really about lifts or BMUs (building maintenance units) at all. The building is a product, and like any product, the developer wants to make it as appealing as possible to their target market, keep the costs down and launch it as soon as they can. Our job is to support them by making sure their product works efficiently.

How do you invest in your staff, inspiring and motivating them in their roles?

We've always had a really strong emphasis on education. Currently about 30% of our team is in some form of education. From degree and master's courses to LEIA modules and project management courses, we heavily invest in our team, with no strings attached. We never stipulate any conditions, there are no obligations to stay with us or pay back the investment, we see it as a commitment to educating our staff and investing in the industry. We have an aspiration to enrol as many of our team as possible as members of institutions, and we currently have two apprentices on staff, investing in future talent. A growth in knowledge can only enhance our collaboration as a team, and we encourage everyone to contribute, sharing views and opinions to generate new ideas.

Tell us about a favourite project of yours

We've been lucky enough to be involved in many exciting projects, including the Battersea Power Station redevelopment, but I think one of my favourites is 40 Leadenhall in London. It's a very cool building with nearly one million square feet of office space and a triple height atrium and tree canopy. We were involved throughout the design process, with the field team coming in through the construction phase for progress monitoring and quality inspections until the building has handed over. Now there are tenants occupying, the asset management team are working with the facilities managers there.

It was such an exciting project as we saw it from the design phase with 3D models, right through to actually walking through the building and recognising those elements we'd seen in the very first stages. There are 35 lifts and 5 escalators in the building, with the whole spectrum from dumb waiters to hydraulic vehicle lifts, double deck lifts to smaller MRLs, so it was a big project for us. Seeing it through design, build and now management, I reckon we'll start the whole process again in 20 years as we look to modernise!

Are there any D2E innovations you'd like to share with us?

We're very proud of our QA process, 'A2K', inspired by the RIBA Plan of Work which used to be staged A to K, but has now moved to numerical stages. A2K defines every process we undertake, from issuing a fee proposal through to being appointed, design stages, writing a specification, making recommendations, construction and handover. Every step is covered with a comprehensive check list so that nothing gets missed. This means we can prompt the client, architect or team with an agreed, consistent approach. I think our A2K process has been one of the most important innovations that we've created.

Are there any emerging trends in vertical transportation that excite you?

The world of AI and the Internet of Things (IoT) is becoming very interesting. We're doing a lot of work exploring how AI can assist with data analysis, remote monitoring and facilitating proactive maintenance. IoT sensors can monitor energy usage and we're looking at how we can use that to potentially develop a tool to create efficiencies.

The emphasis on sustainability also continues to increase, and we're committed to helping the industry reduce its carbon footprint. There's a very interesting second life market that's emerging for reusing materials and components – for example, taking used floor tiles and salvaging the good quality ones to use on the ceiling. There's great scope for reusing many elements within the industry as well as looking more deeply into sustainability and reducing our carbon footprint throughout the supply chain, alongside the operation of the lifts. With government targets for net zero looming in 2030 and 2050, it's important that we respond. It takes time and effort, but if you don't start, you don't do anything!

What's next for D2E?

Growth. It's a simple thing to say, but we are a growing business. We've been around over 20 years and we have plans to do at least that again! We're excited about recruiting, finding markets, working with customers and growing our business.

Thank you to Paul for sharing some of D2E's story and vision.

Find out more about D2E at -

https://d2e.com/

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Podcast

STUCK in a LIFT

SEASON 3

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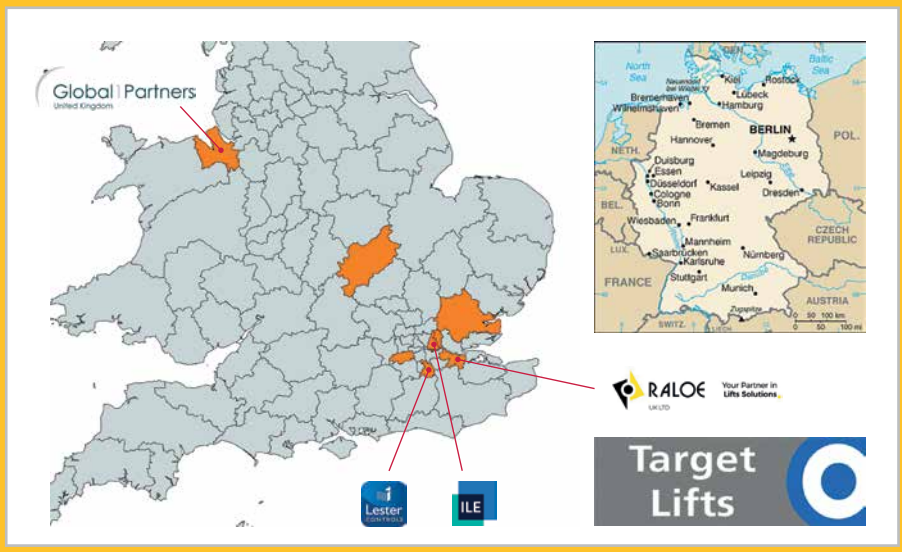
STUCK IN A LIFT SEASON 3

What a line up for Stuck in a Lift Season 3!
Four superstars have already been featured, nine to be revealed and we have given you some clues in the map... plus SIAL goes to Germany AND Sweden!



1. **Miguel De Las Peñas,** the UK Business Manager at RALOE UK who has a passion for watches as well as lift installations.

2. **Stuart Davidson,** Managing Director at Lester Controls, diving deep into leadership strategies that elevate success.

3. **Helen Roberts,** Managing Director of Global 1 Partners who traded whisks and rolling pins in for Nuts & Bolts!

4. **Nancy Lycett,** Managing Director, ILE, talking Leadership, Lifting Equipment and Film Star Fantasies.

And for Season Three you can also WATCH the podcast and see famous faces of the lift industry talking to Alice.

Here's how:

YouTube Link - *https://youtube.com/@blacksproductions_?feature=shared*

Spotify - *https://open.spotify.com/wrapped/share/share-ef799a218f2247e3946be3bdf2ee376e?si=NV62Yu5KRYaubQRj2GsG1A&show-id*

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Target Lifts

And don't forget you can still listen to all the pod casts from Stuck in a Lift Season Two starring…

Episode 1: Danny Garaway , the man with the finger on the pulse at Target Lifts

Episode 2: A Spotless Ascent with Supreme Clean

Episode 3: Elevate Recruitment - Stew Pennykid, Divisional Manager at Cento

Episode 4: Charli Dellaway, Director at Safe Working Lifts Ltd talks about the transformative potential of apprenticeships

Episode 5: Tom Welham, Director at Castle Lifts who has yet to work on a lift in a castle

Episode 6: Electricians Enigmas with Lee Overton at Ziehl Abegg - including wasp nests and latex factories…

Episode 7: Engineering the Future with Jake Honeywood and Liam Sheppard, apprentices at VM Elevators

Episode 8: Elevating Education with Karen Slade from LEIA - training guru and horsewoman!

Episode 9: Matthew Marinangeli, Sales Director - MV Lifts who can sell you a lift - or a burrito!

Episode 10: Adam Bayes at Otis, 20 years of VT experience, mastering lift sales and creating strong client relationships

Episode 11: Steph Murphy, Service & Repair Manager from Cotswold Lifts would like to get Jason Statham in one of her lifts… and Mr Statham is alleged to have said: *The best things in life sometimes happen spontaneously,* so keep hoping Steph!

Episode 12: Dan Keefe, Target Lifts strike again - with cockney banter!

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VM ELEVATORS

ELECTRONICS

Is your lift phone on a BT landline?

If so, modernize now before it's too late

Say goodbye to the landline and stay safe with the 2N EasyGate IP 4G gateway! British Telecom's PSTN landlines will all have gone by 31 January 2027 and by then all fixed phone services will have moved to fully digital IP networks, like Openreach, that cannot support lift emergency phones. The 2N EasyGate IP gateway is the perfect alternative to a traditional landline offering a fully mobile, GSM-type connectivity without changing anything in the lift or having to reprogram the phone. Simply take the two wires connecting the phone to the landline and connect them to the EasyGate IP gateway instead. The 2N EasyGate IP delivers great call quality and good DTMF transmission, where used, and is fully compliant with the EN81:28 lift standard, including integrated backup for power outages.

C.E. Electronics Ltd
+44 (0)1628 487633
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J&L CELEBRATES 20 YEARS OF INNOVATION AND SUSCCESS

Nov 2014
J&L celebrates 10 years as a team of 7.

2017
Kevin Boyes joins.

2019
A year full of BIG machine sales (SC400 and SC500) with Jackson Lift Group at 200 Grays Inn Rd and Temple Lifts at 33 Cavendish Square.

2019
First ever year hitting over £3m sales.

2021
J&L becomes employee owned. Experienced Non-Executive Director Dianne Walker is appointed as the Company's Chair. Existing management move up to the Board; Jon Forbes takes on the role of Financial Director, Richard Johnson as Sales Direction and Kevin Boyes as Technical Director. The trust is established, and Lynda Harding moves from Finance Director to Trustee with Bruce Walker appointed Chair of the Trust.

2021
Introduction of complete systems into our product portfolio.

2022
Impressive SC500 job won with Jackson Lift Group at One Croydon.

2022
Sam Blythin joins.

2023
New strategic partnerships established with FUKA and KRON.

2023
Impressive job won with Apex Lifts at Telehouse; complete back to guides lift replacement with a SF600 machine, bespoke machine room steelwork for a 4:1 suspension system, Thyssenkrupp lift car, counterweight and sling and Wittur Pegasus doors. The machine alone weighed 4200kgs!

2023
Chloe Richardson joins.

2024
Exciting new partnership and product line confirmed for 2025 release.

2024
Claire Skeffington joins.

2024
J&L celebrates 20 years as a team of 10 with Helena, Jon, Richard, John and Jessica seeing in their second decade anniversary.

2024
Continued sales growth to over £5m sales.

12th of November 2024 marked a significant milestone in J&L's journey - their 20th anniversary.

From humble beginnings, founders John and Lynda placed a relentless focus on growing the business from a start up in their garage to becoming a leading supplier in the industry; it's been an incredible ride!

As an SME, economic downturns, industry shifts, and internal changes can be huge challenges to overcome but each time J&L has emerged stronger and more resilient. They have built a culture of collaboration, respect, quality and excellence, where every team member is empowered to contribute to the bigger picture.

As they reflect on the past two decades, they not only celebrate the growth and achievements they have experienced, but also honour the people, partnerships, and moments that have defined them as a company. So, to name a few highlights since their last big anniversary.

A FEW WORDS

Is there anything exciting that people can expect to come from J&L in 2025?

Kevin Boyes, Technical Director:
Our main objective is to meet our customers' needs; we have already started to diversify our product range and will continue to introduce exciting new products throughout 2025 and beyond. With LIFTEX on the horizon, we'll have a great opportunity to showcase what has been going on behind the scenes. Watch this space – stand C24!

What do you see for J&L in the next 10 years?

Jon Forbes, Finance Director:
More of the same! We've had some great achievements in the last ten years as our timeline shows. The company purpose since 2021 is "We don't only supply products, we supply solutions", and if we continue to aim for this in everything we do, I guarantee the next 10 years will be just as prosperous. The last 20 years' success has only been made possible by our dedicated team and their ability to provide high quality products/service to our loyal customers. Since the transition to employee ownership, the company growth has been excellent, and I truly believe this is due to the whole team having a sense of a shared purpose. Long may it continue.

Describe your experience with J&L since joining in 2021?

Dianne Walker,
Non-Executive Director:
Having advised the founders on the EOT formation, I joined J&L as non-executive Chair to oversee the board and develop its strategy for growth. What I've seen in that time, has been a truly impressive performance, not only in the financial numbers, but in growing a team that is highly motivated with a common goal. The emphasis on customer service and quality is exemplary, with the overriding focus on providing solutions for our customers. J&L is an inclusive, values-led team and this will help sustain its success into the future.

In the 10-year anniversary article, you quoted "the best is yet to come". I am sure the EOT was nowhere in sight at that time, but it has created huge success for the company in the last 3 years. What made you and Lynda decide this as an exit route?

John Harding,
Founder and Business Development:
Well, little did we know then that the best really was to come, not just for myself and Lynda but for the whole team. Creating the Employee Ownership Trust was a very proud time for us and has created certainty, stability, growth, and development that the current and future employees will benefit from going forward. Now here we are another 10 years on celebrating our 20th year anniversary, and again I can say the best is yet to come. We have developed new partnerships to ensure we are providing our customers with the very best technical solutions, new staff are joining the team, and we have some amazing new products in development. It's a great time at J&L.

A THANK YOU

To our employees, partners, clients and friends, past and present - thank you for being a part of this incredible 20-year journey. Your support and loyalty has made all the difference. Here's to the next 20 years, filled with even more growth, success, and meaningful impact.

ISEE - THE E&E SHOW

Over three dynamic days, at the Bombay Exhibition Centre from December 5th to 7th 2024, the International Sourcing Exposition for Elevators & Escalators (ISEE) showcased cutting-edge advancements in the elevator and escalator industry, reinforcing India's position as a global hub for innovation and sourcing in this sector.

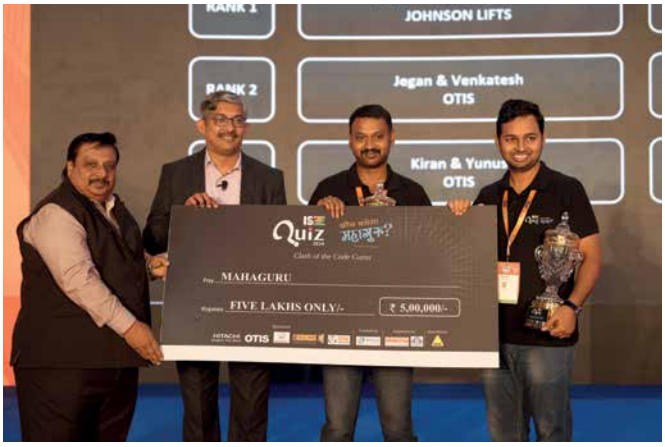
ISEE was inaugurated by Dr. Niranjan Hiranandani, an iconic real estate tycoon and industrialist, celebrating India's burgeoning infrastructure potential. Dr. Hiranandani lauded the industry's prospects, stating, *"With robust growth in infrastructure and real estate, the elevator and escalator industry is poised to grow at a minimum of 25% per annum over the next five years. However, to sustain this growth, industry leaders must prioritise skilling their workforce to meet the rising demand for trained professionals."*

ISEEVENTUS organised the 2024 edition of ISEE which had elevator & escalator installers and maintainers, parking systems, stairlifts, platform lifts, home lifts and hydraulic lifts along with the whole range of elevator and escalator components. Footfall of over 18,000 at ISEE 2024 made it the largest global gathering of the elevator industry outside of China this year.

It was a truly international event. Various associations from around the world supported ISEE including the International Association of Elevator Consultants (IAEC), the European EFESME, German VFA, the Italian ANACAM & ANICA and the Argentinian CAA, Council of Tall Building & Urban Habitat India (CTBUH India), Fire and Security Association of India (FSAI), and the Forum of Critical Utility Services (FOCUS) etc. Representatives from various construction and engineering associations from Africa like the Kenyan Association of Consulting Engineers, & Association of Architects and Engineers Board were also present.

Some of these associations led important topic discussions in the Conference Zone at the show. CTBUH India led a panel discussion on the challenges to Low-Cost Housing, FSAI led on Safe Occupant Evacuation in Emergencies and IEEMA led a discussion on Elevator & Escalator Safety which included LIN's Content Advisor, Dave Cooper.

An Activity Zone offered technical talks, including one on the Fundamentals of Elevator Traffic Analysis from LIN's own Dr Richard Peters!



In the Knowledge Zone there were many useful training sessions, and on Saturday there was a Bring Children to Work session where they attended a safety briefing and received a hard hat and certificate.

Another major highlight was the hotly contested ISEE Quiz.

The Indian standards and codes for the elevators and escalators are evolving rapidly with many new standards being introduced. ISEE has undertaken the initiative of conducting full day workshops on the new standards and the launch of ISEE Quiz 2024 with the support of the Bureau of Indian Standards and IEEMA. 18 teams made it to the semi-finals which were held during the show days and the winners of a hard fought contest were Sreekanth V & Lakshmanan G -from Johnson Lifts.

To get the flavour of the Exhibition here's a short clip:
https://www.facebook.com/share/v/15M7o2QW64/

At the end of the exhibition a Dhol drum troupe mesmerised exhibitors and visitors with a high energy beat of the dhols and dance. The majority of the troupe were female dancers dressed in traditional attire and so the curtain came down on ISEE 2024 with the beats reverberating through the halls and the hearts of all.

At the closing ceremony Mr. TAK Mathews introduced the African delegation & announced the launch of ISEE Africa which will take place from November 26th, 27th & 28th, 2025 at Nairobi, Kenya.

ISEE 2026 will be held over an area of 40,000 sqm at the Yashobhoomi Convention Centre, New Delhi in December 2026.

SEE U @ ISEE - The E & E Show!

For further information, please contact *prabodh@iseeventus.net* or *priyanka@iseeventus.net*

To know more about the ISEE, visit *www.isee-expo.com*

TAK Mathews (ISEEVENTUS) with Gor Ogutu (Adcentric) and the African delegates

LIFT & ESCALATOR SYMPOSIUM

16TH SYMPOSIUM ON LIFT & ESCALATOR TECHNOLOGIES

24 - 25 September 2025

Kettering Park Hotel

www.liftsymposium.org

University of Northampton

Lift and Escalator Industry Association LEIA

CIBSE Lifts Group

LES:
UK BASED, INTERNATIONALLY RELEVANT

In its 15th year, we asked some of the people attending the Lift & Escalator Symposium (LES) for their thoughts on why it works.

TAK Mathews (presenter)
Principal Consultant, TAK Consulting Private Limited. India
I've heard a lot about the Symposium. I had been thinking about attending for over a decade now and kept postponing it for some reason or the other. And I'm regretting it.

I should have been coming to the Symposium way before, and now I'm sure that I'll be here almost every Symposium. And it was a great opportunity to share my experiences with experts around the world.

I took a decade to make up my mind and land up here, and I think I've missed a lot. I think I'd have been much better off if I'd been coming here before.

Eze Umekwe (delegate)
Lift and Escalator Services Manager, Canary Wharf Management, UK.
It's about understanding and getting to see the insights of what other people are working on, other people's passions. And within the lift industry there is so much yet to be understood, still being implemented. These occasions give the opportunity for like-minded people to get together.

I think it's important because it gives you an understanding into a lot of what's being developed in the background, a lot of the new things that are coming up, that are going to impact you, your clients and those that you work with. It gives you an opportunity to stay ahead.

It's a fantastic space, the way the presentations are given, the format of the day, it's something that I would encourage you to experience.

Don't miss it. This is an opportunity of a lifetime. Once you come, I'll see you next year and a year after, and a year after.

Matt Davies (exhibitor and presenter)
Business Development Manager, Digital & Services, MEMCO by AVIRE, UK.
It's a great event. I think there's a lot of very interesting content available, a lot of very thought-provoking content and the exhibiting side as well, we found very good. It's driven a lot of very useful conversations

I think it's one of the best events you can exhibit at. I think it's a very personal event, it's a small audience, it's an audience that you can absolutely interact with everybody at and I also think it's a great opportunity to present papers on subjects that you find important.

Michael Turner (exhibitor)
– Director, Lester Controls, UK.
A very good platform to meet people, catch up with clients, specifiers and the good and the great of the lift industry worldwide. So it's been invaluable to us.

Christiane Tillmann (delegate)
Head of Sales, Mainteny GmbH, Germany.
I believe the Symposium is super necessary because the industry is really wide, there are a lot of different people, and we all need to talk and communicate to understand the industry better. And that's why we are really powerful as a group.

I think the Symposium is important for the industry because it gives us a forum where we can share new ideas and where we can also engage with a wide variety of topics.

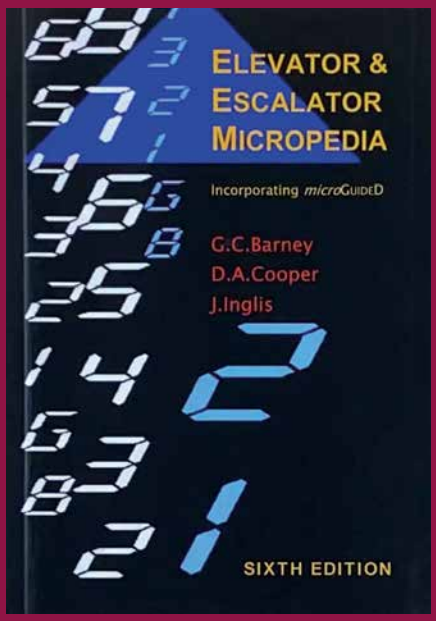
It's interesting coming from another country to see how the same industry works in different countries, so just be open, let yourself be inspired and take it home.

I got some great info, talked to a lot of people, feel inspired, so yeah, great. Absolutely, I will come back, and I hope I can submit a paper to give some notes from Germany to the UK.

Ioanna Sfampa (presenter)
Intellectual Property Specialist, KLEEMANN Group, Greece
I saw things about the Symposium actually in a magazine and I thought that we have some projects with cooperation with the university and I thought that it was an actual good place to present a part of our results.

I think that the most important part is exchanging ideas. I'm able to see that people in UK face a lot of similar problems and I'd like to hear their solutions, so many things may be implemented in different countries as well.

ELEVATOR & ESCALATOR MICROPEDIA



The Elevator & Escalator Micropedia is a compendium of useful data providing a handy first "port of call" for information. It comprises: a glossary of over 2150 terms; drawings of lift components; tables & formulae and a "microGuideD" referencing CIBSE Guide D 'Transportation systems in buildings'.

The book has been complied by industry experts from authoritative sources across the world. It will be of practical use to designers, field service personnel, installers and engineer surveyors.

Also, building owners, facilities managers, lift operators, teachers, researchers, students, etc. will find it a helpful reference book.

This edition has been extensively revised to cover the advent of EN 81- 20 / 50 and the emergence of the ISO 8100 family of standards.

Copies of the Elevator & Escalator Micropedia can be obtained from

https://www.cibse.org/knowledge-research/knowledge-portal/geem-elevator-escalator-micropedia-6th-edition-soft-cover

Price £12.50, {£11.00 CIBSE Members} (no VAT)

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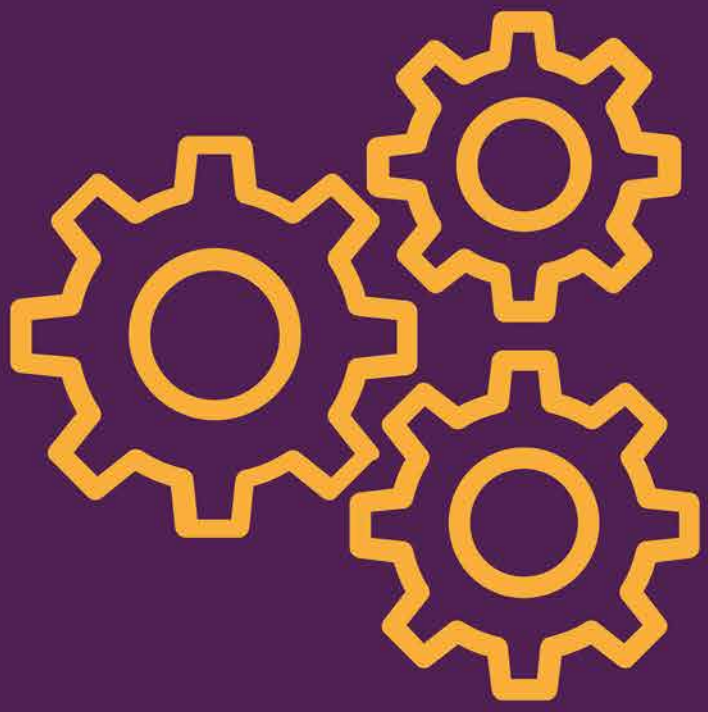


THE KNOWLEDGE BANK

LIFT & ESCALATOR SYMPOSIUM

This paper was first published at the 15th Symposium on Lift and Escalator Technologies, 18-19 September 2024, organised by The Lift and Escalator Symposium Educational Trust. For more information see www.liftsymposium.org

BLACKOUT: EXPOSING THE HIDDEN RISKS OF BATTERY FAILURE IN LIFT PASSENGER EMERGENCY SYSTEMS

PAUL BURNS, PAIGE SMITH, DARREN LANCASTER, OSAMA ALSHHOUMI
D2E International VT Consultants Ltd, 180 Borough High Street, London, UK.

Keywords: Lifts, battery, batteries, power failure, autodialler, emergency lighting, hand winding, passenger release, sealed lead acid, lithium-ion.

Abstract: Part of the authors' professional duties is the regular condition and compliance auditing of 2,600 lifts across 20 diverse client portfolios throughout the UK. Any fault or non-compliance found that represents a hazard to users or engineers is reported back to the client and service provider alike via a *Hazard and Incident (H&I) Report*.

During 2023 the authors raised 574 H&I Reports, suggesting that at any one time, around 20% of this portfolio demonstrated a safety or compliance issue.

Of those 574 H&I Reports, a startling 481 (84%) related directly to the failures of batteries that support emergency systems like autodiallers, lighting and passenger release systems. As an example, 262 lifts (10% of the portfolio audited) presented with non-operational autodiallers when the lift was isolated, that were operational with mains power on.

This data leads to the alarming hypothesis that 18.5% of this portfolio's emergency batteries will be ineffective at any given time, and 10% of autodiallers will be entirely inoperative during a mains power failure.

It is important to recognise that the duty holders responsible for this portfolio have the means to fund annual audits and maintenance provision, which cannot be said for 100% of operational lifts in the UK. Thus the 18.5% of this portfolio presenting with battery failures is likely to be an underestimate of the national picture, raising the frightening prospect of large numbers of lift users potentially being trapped in the dark with no means of communication.

This paper conducts a detailed analysis of the dataset, identifying the functions affected by battery failures, commenting on the potential impact to users, and explores component and system designs that both aid and hinder effective charging, monitoring and replacement of battery systems.

The authors see this issue as a significant safety failing in the UK's (and potentially the global) vertical transportation industry. We are not content with merely highlighting this issue and will be championing an industry-wide campaign to address these safety-critical failings.

1. INTRODUCTION

During 2023, 2,600 UK-based lifts were audited. Any faults found that represented a hazard to users or engineers were reported as a Hazard and Incident (H&I) Report. 574 H&I reports were raised with 481 (84% of reports) presenting as failures of battery power directly supporting the emergency backup system. 262 (46% of reports) related directly to autodialler emergency communication systems. 24% of reports were for emergency lighting systems and 14% were on passenger release systems (Figure 1).

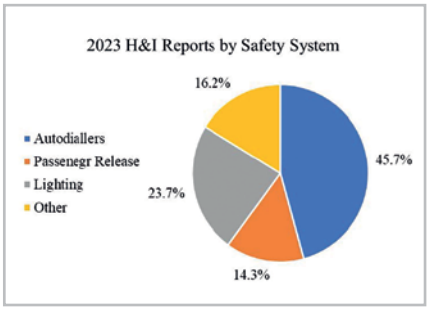


Figure 1 Analysis of the 574 H&I reports raised in 2023 by safety system supported.

This issue indicates a significant safety failing in the UK's (and potentially the global) vertical transportation industry. This study is part of a health & safety initiative by the authors to raise awareness and reduce the largest source of H&I reports.

BS EN81-20:2020 states There shall be emergency lights with an automatically rechargeable emergency supply, which is capable of ensuring a lighting intensity of at least 5 lux for 1 hour and this lighting should come on automatically if the normal lighting supply fails [1].

Additionally, BS EN81-28:2022 [2] states any alarm should not be lost in cases of electrical power supply switching or failure and should be capable of holding sufficient capacity for at least one hour, including fifteen minutes of voice communication.

Further, before the lift can be commissioned into service mains power should be disconnected or simulated as such and the successful operation of the alarm be checked. Emergency power should also be disconnected or simulated as such, to check that an emergency power failure is being identified and indicated [3]. Thus, at the point of commission, the unit must have an operational emergency alarm both with and without a mains power supply.

Lift and Escalator Industry Association (LEIA) publication LMO1:2013 recommends that equipment dependent on a battery backup should have the battery's health checked as part of a schedule of regular checks by the designated maintenance provider. Annex A lists emergency lighting, emergency alarm systems and passenger rescue systems amongst the systems where the condition of rechargeable batteries needs monitoring [4]. Apart from a simple pass/fail check with power on or off, a battery health check will likely be too challenging for a service engineer to perform in the field without specialist tools.

The importance of reliable battery backup systems impacts duty holders, lift users, service providers, and product manufacturers. Through detailed analysis of data, this paper looks at global vs independent maintenance providers, building type, battery backup locations, type of lift, battery type and units considered to be risks.

2. METHOD

Audits are conducted annually using a proprietary audit methodology and recording tool. The audit includes all key elements of the lift, including the quality of the maintenance, condition of the equipment, health and safety concerns, life cycle planning and general observations. Faults that are hazards to users or engineers are reported as H&Is and are categorised as:

- Very High Risk – recommend the unit is isolated.
- High Risk – recommend the unit is isolated.
- Medium Risk – recommended the item be addressed at the next maintenance visit.
- Low Risk – recommended the item be addressed at the next maintenance visit.

All audit reports, H&I reports, and a summary of actions raised are shared with the duty holder and service provider, with some being logged on compliance portals. Further, H&I reports are tracked on a Microsoft Power BI dashboard and reviewed monthly.

When extracting data from the audit reports, the building type, the unit's maintenance provider, OEM, the age of equipment, and the unit's type and function were considered. If the unit was the only unit within a building as well as the battery backup system's manufacturer, product model and location were also noted.

H&I reports from 2022 were also reviewed for comparison. 681 H&Is were reported that year with 490 (72%) relating to battery backups. So far in 2024 (up to and including May 2024), 276 H&Is have been raised with 240 (87%) relating to battery backups.

3. SAFETY SYSTEMS AFFECTED AND THEIR SUPPORTING EQUIPMENT

Lifts Regulations 2016 require vertical transportation to meet specific safety standards, including provisions for emergency situations such as power failures. While the regulations do not explicitly specify the need for battery backup systems, they do require lifts to be equipped with features that ensure passenger safety during power outages.

This study shows the industry relies heavily on battery backup systems to support passenger safety features, including:

- In-car communications
- Passenger release / audible and visual
- indication
- Emergency car and shaft lighting
- Uninterrupted power systems
- Automatic evacuation rescue
- Uncontrolled monitoring systems

These safety systems are designed to automatically activate when they receive a signal indicating failure of mains power, in order to ensure continuity of essential functions.

The systems are equipped with charging circuits, often integrated into the lift controllers, to ensure that the batteries properly and safely charge while connected to the main power supply.

The status of the battery's charge is typically monitored by a diagnostic system integrated into the lifts' controller or indicated through LCD screens, error LEDs, ping tests or IoT monitoring devices, to alert maintenance personnel to any issues.

Some manufacturers have developed fail-safe systems with a diagnostic feature that automatically parks the lift in a safe location until maintenance personnel actively attend to that fault. Regrettably, this is not the industry norm, and these systems rely on a stringent maintenance regime and can often be overlooked.

Multiple emergency power solutions can be found on the same lift depending on the specific power requirements and operational needs of the safety system being supported. Additionally, the choice of battery type, whether Sealed Lead-Acid (SLA) or Lithium-Ion (Li-ion), and its voltage (V) and ampere-hour (Ah) rating depends on the power requirements of the system, the voltage (V) of themain power supply, the duration of backup power needed, and the energy consumption of the safety system being powered.

12V batteries are typical for most systems requiring lower power, with systems such as passenger release systems and automatic evacuation systems having multiple batteries connected in parallel to provide the required voltage (V) and ampere-hour (Ah).

Up to the mid-2010s batteries were typically a sealed lead-acid (SLA) design. Later systems have seen a trend towards lithium-ion (Li-ion) batteries due to their higher energy density, longer cycle life, and faster charging times. Both battery types have advantages and limitations:

Table 1 Advantages and limitations of SLA and Li-ion batteries

Sealed Lead-Acid (SLA) Batteries	
Advantages	Limitations
Available in voltages (V) ranging from 6V to 12V	Large and heavy compared to lithium-ion batteries.
Common configurations include 12V, 24V or 48V systems	Lower energy density, which means they have less energy storage capacity for the same size
Proven technology, widely available	Limited cycle life compared to lithium-ion batteries.
Relatively inexpensive	
Suitable for short-duration backup power	
Available in a wide range of Ah ratings, typically from 600mAh to 12Ah.	
Lithium-Ion (Li-ion) Batteries:	
Battery packs can be configured to provide various voltages (V) and Ah ratings.	More expensive than sealed lead-acid batteries
Common voltages (V) for Lithium-ion include 12V, 24V, 48V or higher, depending on the specific requirements of the lift system.	Historical, early developmental safety concerns regarding thermal runaway, overheating, shorts or manufacturing defects (Galaxy Note 7 in 2016). Although modern Li-ion batteries are designed with safety features to mitigate these risks
Higher energy density, providing more energy storage capacity in a smaller and lighter package.	
Longer cycle life compared to sealed lead-acid batteries.	
Faster charging times	

Machine room-less (MRL) lifts have most of their equipment installed in the shaft. The often-limited space means systems are typically installed in the overrun, making access and maintenance more complex. As an example, H&I audits often find MRL passenger release systems located at the very top of the shaft, making maintenance activities more complex. The lift must be manoeuvred to a safe position to handle heavy batteries, often requiring two engineers. Ladders or scaffolding may be necessary adding time and cost to the exercise, plus additional safety precautions to protect maintenance personnel.

Systems such as lift autodiallers typically place batteries on the car top or inside the maintenance access panel. While this can be more accessible than the top of the shaft, it still requires the lift to be parked on a specific floor for maintenance access to provide access to the car top.

4. ANALYSIS

481 H&I reports cited emergency battery backup failure. Of these, almost 55% (262) related to in-car communications, 17% (82) related to passenger release systems and 28% (136) related to in-car lighting (figure 2).

This data identifies in-car communications as the most frequent system to be affected by a battery failure in the audited portfolio. Indeed, battery failures in communications systems accounted for almost half of all the H&I reports submitted.

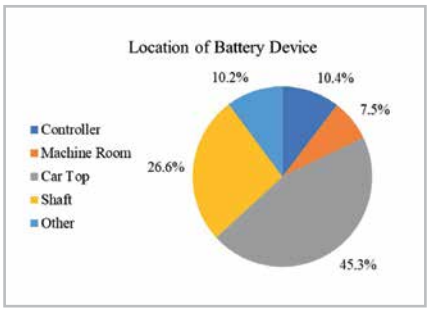
Figure 2 Analysis of the systems affected by battery backup failures raised in 2023's H&I reports.

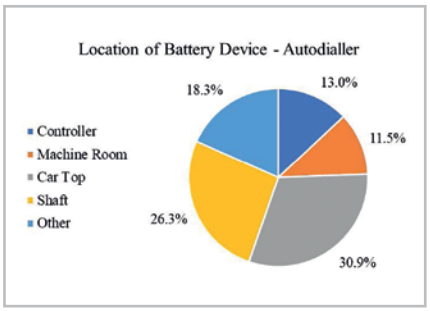
4.1. LOCATION OF BATTERIES

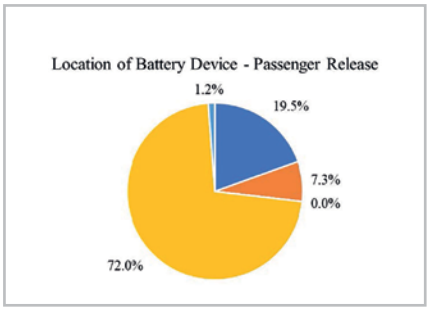
Analysis of all the backup battery failure reports demonstrated that more than 67% of the lifts involved were machine room-less products (MRL). Further analysis showed that 72% of the failure reports had batteries located in an area requiring a greater degree of intervention, such as the shaft or on the car top (Figure 3).

Further scrutiny of the battery locations by the device they supported returned similar results, with high proportions of failures of in-car communication systems and passenger release systems having their batteries in the shaft or on the car-top. Batteries supporting emergency car lighting are assumed to be exclusively located in or on the lift car.

Figure 3 Locations of the battery back-ups found to have failed in the 2023 H&I reports (above), and the relative proportions of battery locations supporting autodialler units (above right) and passenger release systems (opposite).







The high proportion of failure reports from devices with batteries in 'hard to reach' locations will certainly be influenced by the popularity of MRL products in the UK market. However, the authors hypothesize it also suggests the influence of Human Factors in failures to resolve or correct battery failures. That is, if the effort to monitor or access a run-down battery is high, then the likelihood of it being replaced promptly is likely to be low.

4.2. TYPE OF BATTERY

Analysis of the whole portfolio of failure reports showed the battery types that were failing were split relatively evenly between SLA and Li-ion, with about 56% involving SLA batteries.

However, when reviewing in-car communication systems and passenger release systems separately, distinct preferences for one battery type were witnessed. The nearly 60% of the failed autodialler systems were supported by SLA batteries, and just over 60% of the failed passenger release systems were supported by Li-ion batteries. Battery types for emergency backup lighting were not recorded.

The team continues to speculate on the reasons for this significant difference. However, the age of the technology may be an influence.

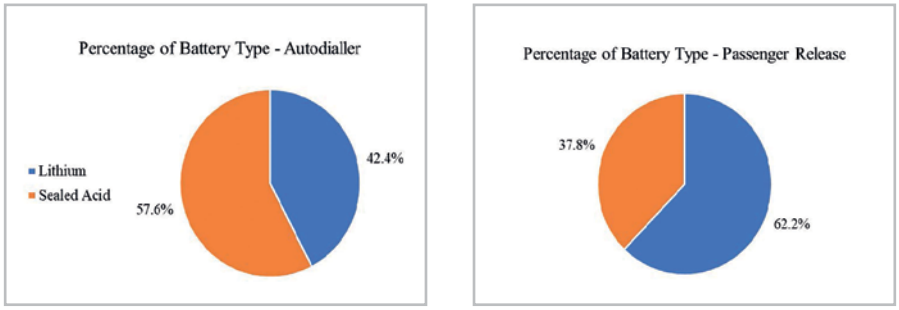


Figure 4 Charts showing the relative proportions of battery types in H&I reports that supported autodialler units (above right) and passenger release systems (right).

4.3. TYPES OF BUILDING

The authors were keen to understand the types of building where battery failures were reported.

Figure 5 shows office buildings dominate the failure reports.

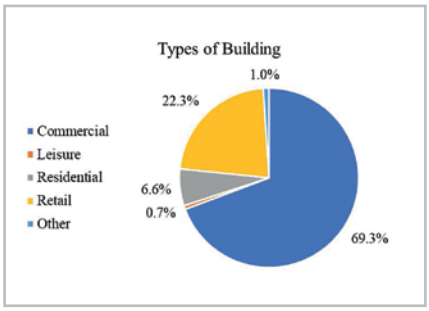


Figure 5 Breakdown of the types of buildings reporting battery backup failures

A separate analysis was carried out for failure reports from the three dominant systems (in-car communication, passenger release and emergency lighting), with each showing a similar dominance of commercial office space (Figure 6). Of the 2600 lifts in the audit portfolio around 55% are in offices, suggesting the higher usage of office lifts, particularly during working hours, may be leading to higher numbers of battery failures impacting users.

Equally concerning are the instances of failures in residential buildings. Whilst not as numerous as the offices, residential buildings did have failure reports from all three dominant systems. Residential buildings are typically less populated during working hours which raises the risk of mains power failure entrapments going un-identified if they coincide with emergency battery back-up failures of these systems.

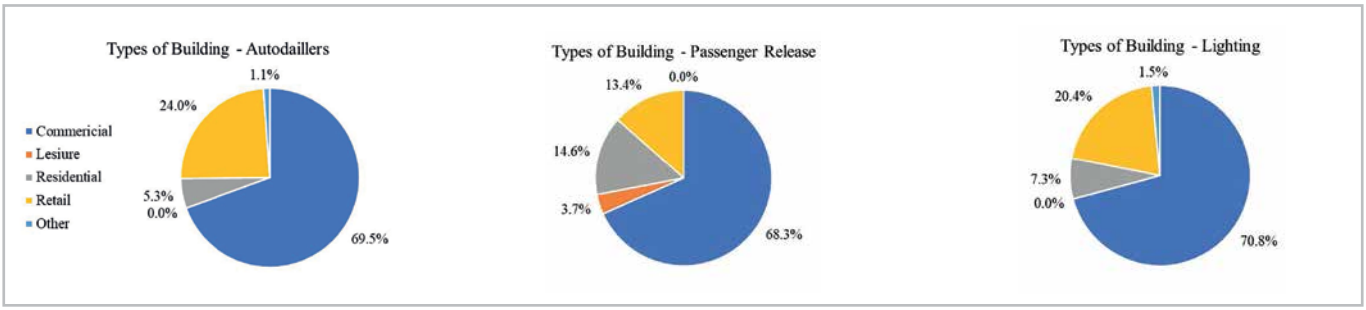


Figure 6 H&I reports by types of buildings separated by batteries supporting autodiallers (left), passenger release systems (centre) and emergency lighting (right)

4.4. SERVICE PROVIDERS

Analysis of the three dominant safety systems revealed that service provision by a global supplier was significantly higher (63% and greater) than service provision by a UK-based independent provider (Figure 7).

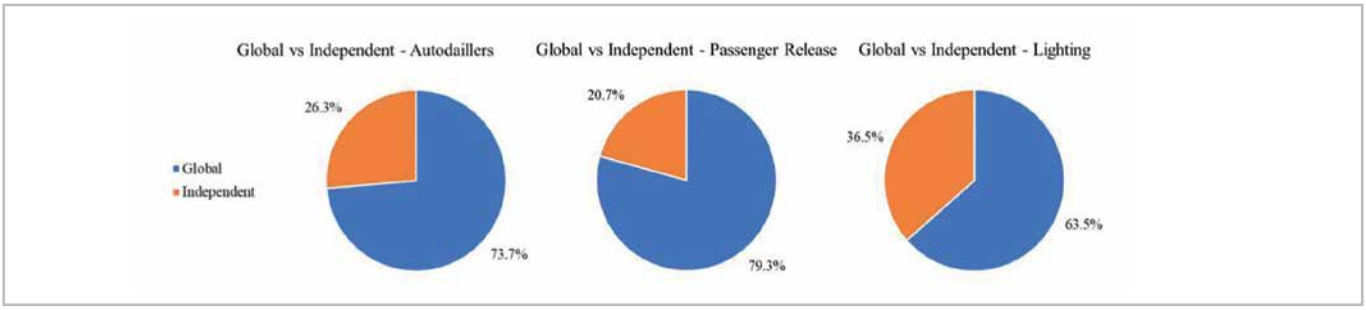


Figure 7 Representations ofthe proportion ofvulnerable systems supported by global service providers vs those from the independent market

For the autodialler battery failures, one service provider (B) featured significantly more (nearly 60% of H&I reports) than the others (Figure 8 left). Further analysis (Figure 8 right) showed that a little under half (46%) of the autodialler system failures attributed to service provider B were from systems of their own manufacture, with a little over half (54%) being a third party's product. A similar picture emerged for service provider C, although the absolute number of failure reports for service provider C was about 1 /3 of that of service provider B.

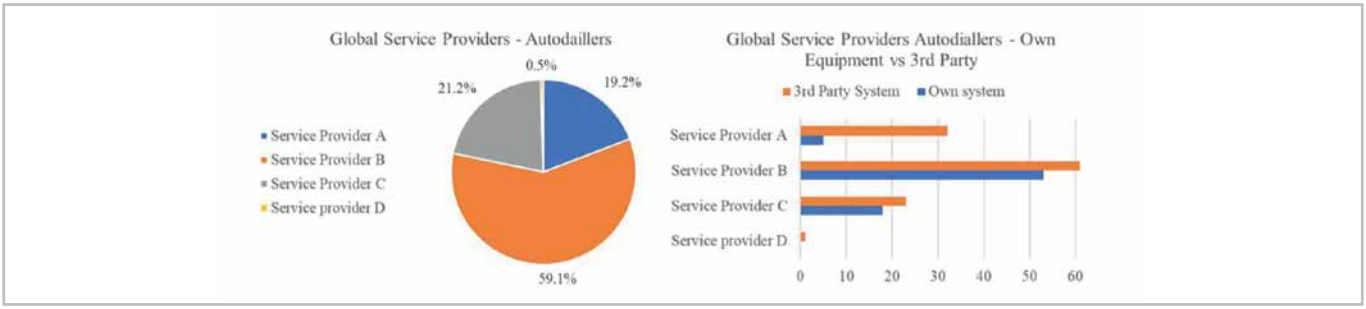
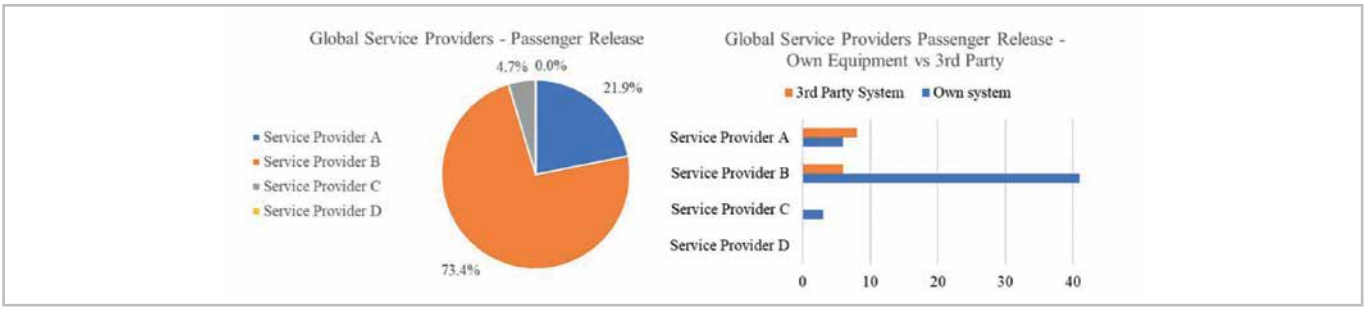


Figure 8 Distribution ofautodialler emergency battery failure reports by service provider (left), and the absolute numbers ofreports by own-brand vs 3 rd party equipment.

Service provider A appeared to have better control over their own products with 86% of their failure reports coming from third-party products. The absolute numbers of autodialler H&I's for service provider A were similar to those reported for service provider C.

Analysis of the passenger release systems' reports showed a similar picture, with the failures dominated by a single service provider, and by their own branded product rather than third-party equipment (Figure 9).

Figure 9 Distribution ofpassenger release emergency battery failure reports by service provider (left), and the absolute numbers ofreports by own-brand vs. third-party equipment.



The dominance of one service provider in this study is clearly concerning but does not necessarily represent that organisation's culture. The significance placed on battery health by individuals within organisations will vary, just as it does between organisations.

More significant is the fact that this and other service providers have failure reports for their own branded equipment. Firstly, service personnel working for a particular provider should be more familiar with the operation and maintenance procedures of their own equipment, making monitoring and repair simpler. Secondly, the increase in popularity of remote monitoring systems by the global supply chain has been heavily marketed as enhancing customer service through constant monitoring and faster first-time fixes. In the instances seen in this study, there would appear to be contradictions.

5. CONCLUSIONS AND RECOMMENDATIONS

Analysis of the data set of battery failure reports has highlighted several key themes. Firstly, in-car communications systems are the main safety system affected by emergency backup battery failures. This is at the root of the authors' concerns because, as well as being non-compliant with EN81-20 and LOLER, they present the risk of power failure-based entrapments going undetected.

Secondly, the location of backup batteries in 'hard to reach' places featured more frequently in failure reports than those with batteries in relatively more accessible locations, like landings or lift motor rooms. This suggests the influence of human nature in the failure to identify and resolve the H&I reports.

Thirdly, the inability of service providers to monitor and resolve failings in their own-branded equipment is a special concern, particularly given the recent investment in remote monitoring technologies.

Lastly, the authors have the following proposals for the industry. When designing or retrofitting lift safety systems, can suppliers place battery backup systems in more accessible locations? For example, below the machine, attached to the guides in easily accessible cabinets, or at the base of the lift shaft. Including features like removable panels or maintenance platforms would also enhance accessibility.

With technological advancements increasingly tending towards implementing IoT-based remote monitoring systems and the advancement of 'edge computing' protocols, can real-time data on battery health and charge status be monitored locally either by the device, the lift controller, or a local building server? A low maximum capacity alarm could be transmitted to service providers and clients alike when that threshold is reached. This would reduce the need for frequent physical checks, and expensive live streaming of system data.

Can the use of fail-safe systems that switch a lift into engineer's inspection mode when a low maximum capacity is detected be mandated?

The proliferation of GSM-based communications and FTTP (fibre to the premises) networks following the withdrawal of the copper PSTN communications networks in the UK means a greater number of systems requiring battery backup, and a greater number of potential points of failure.

By addressing these challenges through thoughtful design and maintenance practices, the safety and efficiency of battery-backed emergency systems in lifts can be significantly improved.

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BIOGRAPHICAL DETAILS

Paul Burns is Design Director at D2E International VT Consultants Ltd, having joined in 2013 after working for a global lift and escalator manufacturer for the previous 8 years. Paul holds a bachelors degree in Materials Engineering from Swansea University, an Engineer Doctorate in Clean Steel Technology, is a Chartered Engineer and Member of CIBSE. Paul specialises in vertical transportation strategy design, modernisation and repurposing as well as simulating new and investigating existing vertical traffic patterns. Paul regularly contributes to BCO publications and has published with the CTBUH. Notable projects Paul's worked on include 40 Leadenhall Street, Battersea Power Station, 70 St Mary Axe and Qiddiya Motor Sport Hotel.

Paige Smith joined D2E International VT Consultants Ltd in 2022 as a graduate Mechanical Engineer following successful completion of her MEng at Kingston University. Starting in the Business Support Team, Paige moved to the Design Team in 2023 working with both Façade Access and Vertical Transport disciplines. Paige was instrumental in developing D2E's sustainability strategy, championing education and accreditation and writing the firm's policy.

Darren Lancaster has been in the vertical transportation industry since 2000, starting as an engineer's mate at an independent lift company, advancing to a senior technical role with a global lift supplier. In 2019, Darren joined D2E as a Field Associate progressing to become a key member of the D2E's project team, delivering project assurance site services to a wide range of UK clients. Darren is currently undertaking a qualification in Project Management with the APM. Notable project involvement includes: Battersea Power Station Phases 2 and 3, Stonecutter Court, 81 Newgate, South Quay Plaza 4 as well as numerous modernisation and replacement projects.

Osama Alshhoumi is a Field Associate at D2E International VT Consultants Ltd, with over 15 years of experience in the industry. He started his career in 2007 and has since worked on numerous new build projects including Nova East and Battersea Power Station, and refurbishments including Northcliffe House and 100 Bishopsgate.

Osama holds an MSc in Electronic and Electrical Engineering from Strathclyde University and is currently pursuing an MSc in Lift Engineering at the University of Northampton, due to complete in 2024. Osama is also an NVQ4 qualified lift tester and has completed numerous NEBOSH modules.

LIFT & ESCALATOR SYMPOSIUM

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HOW MANY BREAKDOWNS ARE ACCEPTABLE?

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Keywords: Breakdowns, callouts, obsolescence, appropriate equipment, vandalism, training, skills, MTTF, MTBF.

Abstract: The number of acceptable breakdowns that a lift may experience is an emotive subject. There appears to be only one published record that says that four breakdowns per annum are acceptable before an interest should be taken into the reasons why [1]. The owner of the lift may also have a different view of the acceptable number of breakdowns compared to the contractor. There are also a number of variables that have an input into the number of breakdowns that actually occur – age of equipment, external influences (power cuts etc.), type of equipment compared to environment, type of occupant, skills level of maintenance operative, type of maintenance contract, whether maintenance is even being undertaken, and also the number of landing doors being a few. The question is… can an acceptable number of breakdowns be agreed upon subject to the equipment being the right type for the right environment?

1. INITIAL VIEW

When people are asked how many breakdowns per annum are acceptable on a lift the response will be a wide range of opinion.

Some lift owners will say that no breakdowns are acceptable with some maintenance contracts applying penalties for downtime.

At the other end of the scale a lift maintenance contractor on a basic oil and grease contract will rub their hands in financial delight at the thought of a breakdown as they can charge for attendance!

An employee in a building might not care how long it takes them to get to their workplace so if the lifts are regularly out of service they might be ambivalent to it whereas their employer might have a different view.

2. CASE HISTORY

In a recent civil dispute which went legal but settled prior to trial a tenant claimed against the landlord for enduring years of poor lift service in a building which they occupied several floors.

Table 1 below shows the difference between the claimants' position and that of the defending landlord.

The claim was that there had been hundreds of lift breakdowns in the period and that the landlord, and its servants (the facilities management company and the lift maintenance contractor) had failed to manage the building in a professional manner.

Long and detailed analysis of hundreds of documents revealed that apart from over occupying the building the list of breakdowns included items such as light bulbs failing in a lift car, fire alarm activations and subsequent lift groundings, power cuts, lifts being left on car preference and so on.

The final analysis was that, whilst the number of breakdowns was high, it wasn't anywhere near as high as the claimant suggested despite the millions of pounds involved in the claim.

Year	Claimant		Defendant	
	Total	Per lift	Total	Per lift
2008	96	13.7	63	9
2009	129	18.4	101	14.4
2010	102	14.6	86	12.3
2011	199	28.4	151	21.6
2012	206	29.4	132	18.9
2013	94	13.4	69	9.9
2014	81	11.6	67	9.6
2015	34	4.85	18	2.6

Table 1 Comparison of total breakdowns claimant versus defendant

Further analysis was undertaken as to the causation of the various breakdowns by tabulating breakdowns where:

- Components were required
- Minor maintenance was required
- Misuse
- No fault found/working on arrival

Type of Call/ Incident	2002	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Breakdown call requiring parts/ repair	0	0	0	0	42	43	20	50	19	19	4	0	197
Minor maintenance	0	0	0	0	3	29	43	76	59	33	35	0	278
Misuse	0	0	0	0	2	1	1	1	1	0	2	2	10
No fault found/ running on arrival	0	0	0	0	1	13	10	6	9	2	2	0	43
Fault not detailed	5	3	1	3	15	15	12	18	44	15	24	16	171
Total	**5**	**3**	**1**	**3**	**63**	**101**	**86**	**151**	**132**	**69**	**67**	**18**	**699**

Minor maintenance includes resets after power failures

Table 2 Analysis of breakdown causation

Table 2 reveals that whilst the majority of breakdowns were as a result of minor maintenance being required (more often than not doors going out of adjustment) there were also issues with component replacement being required on a regular basis. In truth the lifts had been neglected and poorly maintained.

The above table also reveals that reporting by the maintenance contractor in 171 cases was such that no proper analysis could be undertaken of those breakdowns.

Further analysis as shown below in figure 1 below revealed that the number of passenger entrapments were found to be high and it was in fact this situation that alerted the tenant to the problems as staff were claiming to be scared to use the lifts.

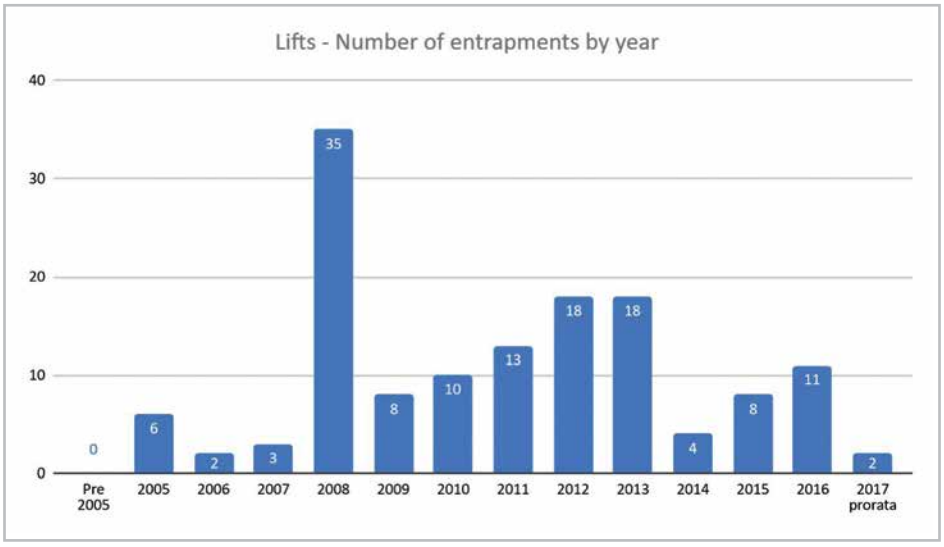

Figure 1 Number of passenger entrapments by year

3. WHAT IS A BREAKDOWN?

In order to agree on a relevant number of breakdowns it is required that a definition of a breakdown be agreed.

There are a number of definitions of what a breakdown is and these can be broken down into two types, namely:

- Total Breakdown
- Depleted Service

For instance, a door lock fault that is on permanently and renders the lift out of service can be described as a total breakdown whereas a stuck push button may place the lift into a depleted service where the lift will only stop at that floor occasionally rather than being stuck there permanently as was the case before stuck button recognition.

For the purposes of this paper the definition used for a breakdown is one which leaves the lift out of service and unable to respond to any calls.

For the purposes of clarity issues such as a defective indicator, defective safety edge where nudging is fitted where the contractor has been called to affect a repair is not considered a breakdown.

4. SUB LEVEL OF BREAKDOWNS

There is a sub level of breakdowns which need to be removed from the total breakdown count and these include:

- Vandalism where appropriate equipment has been installed.
- Power cuts
- Card reader (security system) failure
- Grounding as a result of fire alarm inputs
- Lift left on car preference control
- Obstruction in door track

In simple terms a breakdown where the causation of the breakdown is as a result of an external influence and not as a result of a component failure or poor maintenance.

In addition, callouts labelled as working on arrival should be removed from the equation as these cannot provide substantive evidence as to the cause of failure however it is recommended that where these are excessive they should be considered as a separate data set.

5. ACCEPTABLE NUMBER OF BREAKDOWNS

Only one published reference to an acceptable number of breakdowns has been found in which it says that four breakdowns per annum can be considered acceptable [1].

This reference is not specific as to the environment in which the lift in installed.

This raises the question whether the acceptable number of breakdowns should vary for different environments?

Maybe one would have an opinion that a hospital environment should have less than a social housing environment and so on.

This may well promote social debate especially as there is currently a situation where social housing residents are critical of local authorities for value engineering construction projects. There has been nothing more evident than the Grenfell Tower fire for this discussion.

The lift industry finds it acceptable to apply a different average interval and handling capacity to private residential dwellings than it does to social housing which begs the question as to whether the approach is correct or not. Table 3 below sets out the published difference in CIBSE Guide D [2].

Table 3.13 Design criteria: residential buildings (5-minute, two-way)

Type	Luxury	Normal	Low income
Interval (s)	45–50	50–60	50–70
Two-way handling capacity (%)	8	6–8	5–7

Table 3 Different approach to residential dwellings with respect to traffic design

The question of where the lift(s) are in their lifecycle should also be considered. Figure 2 below sets out a graphical representation of equipment life as published in the claimant's experts report [3] (source not known). If they are in phase 1 of their life and appropriate equipment has been installed it would not be appropriate to consider modernisation or replacement.

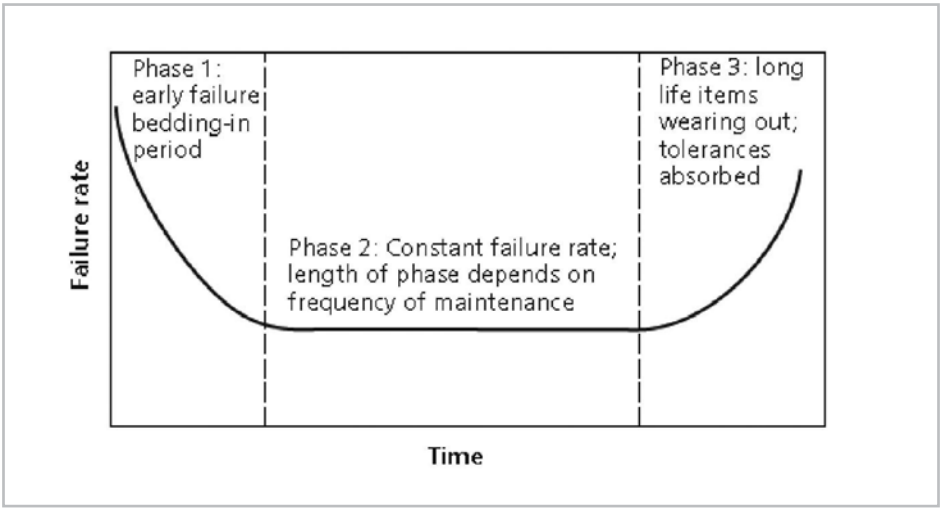

Figure 2 Phases of equipment life

In addition, consideration needs to be given to advice from control panel component manufacturers with respect to Mean Time to Failure (MTTF).

In a real case of a brake failure on a lift as a result of the lift driving through the brake, the contactor manufacturer had established a MTTF or number of operations the contactor could be expected to last as being 1 million operations.

The MTTF is established by testing a number of similar components until they fail and averaging the number of operations.

The location of the lift was a high-rise residential tower block of around 20 levels. With two lifts in the block and 6 dwellings on each landing mostly containing two persons it is not unreasonable to estimate that the lifts would have made 960 starts per day (6 x 2 x 4 x 20) or 480 starts each. This is based on a simple rule of thumb that every occupant did a return journey in the lift twice in a day but doesn't allow for the postman, milkman etc who may use the lift to stop at every floor.

On that basis of this rule of thumb the contactor could be expected to last 2,083 days or 5.7 years. In this case the control panel was around 20 years old and the contactor was thought to be the original but it does demonstrate that scheduled component replacement should be considered especially as control panels are expected to last between 10 and 15 years on average. Journey counters would be useful on all control panels to assist with a MTTF component replacement strategy.

6. REPEAT CALLOUTS

Repeat callouts can occur for many reasons including an intermittent fault that only raises its head every now and again either because of the nature of the defect or as a result of circumstances coming together to make the fault appear (a perfect storm).

To those affected by such a situation the fact that the fault is intermittent is annoying but also very real and as far as they are concerned they will see them as separate breakdowns because to them they are whereas to an industry operative they might see it as one breakdown that took X number of visits to solve.

In one case the safety gear on a lift operated over 30 times in a year as a result of incorrect installation as the governor rope was run through rough cut holes cut in the guide brackets yet nobody from the contractor diagnosed the cause.

Figure 3 Incorrectly installed governor rope

7. WHAT IS A CALLOUT AND HOW SHOULD THEY BE CLASSIFIED?

Examples of different callouts (note callouts not breakdowns albeit some of the callouts can be deemed breakdowns) to lifts are tabulated below and the difference in claimed outcome can be seen.
Table 4 below is purely hypothetical and is intended to provoke debate.

Callout reason	Number of callouts	Possible claimants view on number of callouts	Possible defendants view on number of callouts
The lift was found to be on car preference and re-entered service immediately after this was removed.	5	5	0
The lift was found not to have been "working" because it has shut down in energy saving mode as it was deemed by the control system that the other lifts provided sufficient service	3	3	0
The lift had clipped a lock at the 3rd floor three days in succession but then restarted but the contractor had not been called.	3	3	1
The lift had clipped a lock at the 3rd floor three days in succession and the contractor had not been called on each occasion.	3	3	3
There had been a total power cut in the building	4	4	0
The safety edge had been vandalised	2	2	0
The lift had crash stopped in travel over a period of a month. It was found that there was a break in a trailing flex that intermittently dropped the safety circuit. On most occasions the lift restarted as the break remade and the fault wasn't diagnosed until the break became permanent.	5	5	1
A lamp in the lift car failed	3	3	0
Total		28	5

Table 4 Hypothetical Callout Table with possible different stances

The customer experience isn't good but it is far from being the fault of the lift itself.

8. ACTIONS WHEN BREAKDOWNS APPEAR EXCESSIVE

Even if it was agreed that four breakdowns a year were acceptable that shouldn't automatically initiate a programme of modernisation or replacement.

The maintenance contractor should review the contract and ask the following questions:

- Is the equipment installed appropriate for the location?
- What is the age of the equipment installed?
- Is the equipment installed obsolete?
- Are the breakdowns being caused by a single or multiple cause?
- Does the location suffer from misuse?
- Is the number of breakdowns high due to a single issue that hasn't been properly diagnosed or rectified?
- Is the maintenance operative suitably skilled for the task/equipment?
- Is technician support provided in an appropriate and timely manner?

Once an analysis has been undertaken the owner/operator should seek independent advice from a suitably qualified consultant to avoid a possible commercial bias from the contractor.

Following this the owner should ask the following questions:

- Is the maintenance contractor appropriate for the equipment installed?
- Is the maintenance operative suitably trained?
- Are breakdowns escalated to a more appropriate technician when required?
- Is the type of maintenance contract suitable for the location?
- Has an agreed causation of breakdown analysis been undertaken?
- Does the location suffer from misuse?
- How can the analysis and information be taken forward?

9. CONCLUSIONS

A standard X number of breakdowns per annum is not an appropriate way of measuring the need for modernisation or replacement.

It may however alert an owner and/or maintenance contractor to the fact that problems exist. Over and above this:

- It might also be more appropriate to say "the acceptable number of breakdowns is X on the basis that appropriate equipment is installed"
- Discussion is required as to an appropriate level of breakdowns based on the locus.
- Reliability is just as important as a design based on traffic analysis
- Detailed reporting of breakdowns by the maintenance contractor is a must to allow adequate analysis to be undertaken.
- Tenants are seeing the opportunity to claim against contractors and/or building owners for poor lift performance.

It is the authors' opinion that only once a true picture of breakdowns versus callouts has been established that a discussion can be had as to whether modernisation or replacement are appropriate.

It is however important that an appropriate maintenance regime considering MTTF and undertaken by properly trained staff needs to be in place and be monitored. This should include staff being trained in how to complete log cards and maintenance records.

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BIOGRAPHY

EurIng David Cooper BSc(Hons), MSc, MPhil, CEng, FIET, FCIBSE, FRSA, FCGI
David Cooper is the Managing Director of UK based lift consultants LECS (UK) Ltd. He has been in the lift & escalator industry since 1980 and is a well-known author and speaker. He holds a Master of Philosophy Degree following a 5-year research project into accidents on escalators, a Master of Science Degree in Lift Engineering as well as a Bachelor of Science Honours degree, Higher National Certificate and a Continuing Education Certificate in lift and escalator engineering.
He is a co-author of "The Elevator & Escalator Micropedia" (1997) and "Elevator & Escalator Accident Investigation & Litigation". (2002 & 2005) as well as being a contributor to a number of other books including CIBSE Guide D. He is a regular columnist in trade journals worldwide including Elevation, Elevator World and Elevatori. He has presented at a number of industry seminars worldwide including 2008 Elevcon (Thessaloniki), 2008 NAVTP (San Francisco),1999 LESA (Melbourne), 1999 CIBSE (Hong Kong), 1999 IAEE (London), 1998 (Zurich), 1997 CIBSE (Hong Kong), 1996 (Barcelona) and 1993 (Vienna) as well as numerous presentations within the UK. He is also a Founding Trustee of the UK's Lift Industry Charity which assists industry members and/ or their families after an accident at work. In 2012 David was awarded the silver medal by CIBSE for services to the Institution. David Chairs the Charity that runs the Lift Symposium and is an Honorary Visiting Fellow at The University of Northampton.

THE QUIET TRANSFORMATION IN THE FIRE CURTAIN INDUSTRY

Charles Devenish , CEO of Adexon Fire and Smoke Curtains looks at what is changing in fire curtains.

INTRODUCTION TO FIRE CURTAINS

Fire curtains are essential life safety systems designed to create a barrier in the event of a fire, separating spaces that are typically open to one another. They are engineered to deploy under gravity if both mains and battery power fail, ensuring reliable operation during emergencies. Once deployed, fire curtains form a seal to contain fire and smoke, preventing their spread and allowing for safe evacuation. Vertical fire curtains are particularly common in front of lift doors, providing effective fire protection without obstructing daily use.

THE EVOLUTION OF FIRE CURTAINS

Blockbuster was once a dominant force in video rentals, much like Hoover was in vacuum cleaners. However, their dominance led them to laugh Netflix's $50 million offer in 2000 out of the room[1] — a decision that now seems shortsighted, as Blockbuster has since become a relic while Netflix is valued at $150 billion. This shift illustrates how industries can undergo significant transformations when innovative solutions enhance user experience.

Fire and smoke curtains are a modern fire-stopping product that offers architects and designers the freedom to create open spaces while maintaining fire compartmentation. However, the market for fire curtains has remained limited due to product reliability and maintenance issues.

COMMON ISSUES WITH TRADITIONAL FIRE CURTAINS

Older fire curtain designs frequently experience failures such as fabric tearing, retention loss, and jamming in the side guides (Fig.1) —issues that can be fatal during a fire.

Fig. 1 Photos showing the three common headaches that occur with the old designs of fire curtains

These problems stem from the use of metal fasteners, like bolts or poppers, which penetrate the fabric and create weak points (Fig. 2). As the fabric flexes over time, it may meander during deployment, causing the fasteners to jam, leading to serious operational failures.

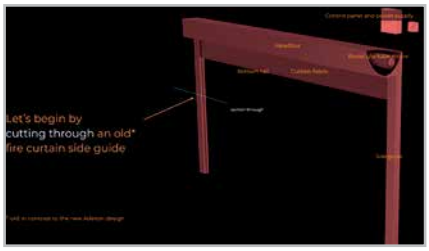

Fig. 2 Isometric of a typical vertical fire curtain showing the main components and where the Fig 5 section is taken from

What we find inside the side guide is a metal fastener penetrating the fire curtain fabric.

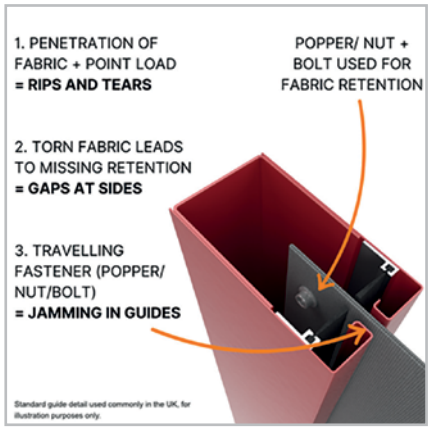

Fig. 3 Cross-section through a fire curtain side guide channel showing the traditional method of fabric retention using a bolt or popper. Also shown are the polypropylene filament cold smoke seals traditionally used for smoke control.

DO STANDARDS LIKE BS 8524 OR ISO 9001 ADDRESS THESE PROBLEMS?

Despite a manufacturers process for manufacturing the fire curtain adhering to standards like BS 8524 or BS EN ISO 9001, traditional designs still suffer from inherent flaws.

We see in the next two case studies that neither the old BS 8524-1 product standard, nor the code of practice for installation, BS 8524-2, nor ISO 9001 can improve the performance of the old designs.

CASE STUDY #1

The manufacturer of these horizontal fire curtains is certified to BS EN ISO 9001 and their products have been successfully tested to BS 8524-1. The installation has been undertaken in accordance with BS 8524-2.

https://bit.ly/4hbV0U9

Video showing a horizontal fire curtain of the old design. This is in a five-storey care home.

CASE STUDY #2

This vertical fire curtain is from a different manufacturer. They also have ISO 9001, BS 8524-1*, and BS 8524-2. This image shows the most prevalent problem referred to above – jamming in the side guides and thus failing to deploy. In a fire this would be fatal for the property and potentially fatal for any people relying on these as part of the fire strategy:
*valid BS 8524-1 third-party product certification is no longer available

Fig. 5 Photo showing the most common headache – jamming in the side guides.

THE WAY TO AVOID THESE PROBLEMS AND THE BENEFITS AVAILABLE

Fire curtains with the new designs such as shown in Fig. 6 avoid these problems as they have addressed the root cause.

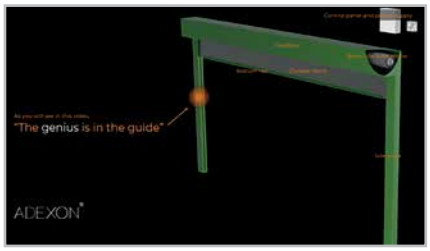

Fig. 6 Isometric of a typical fire curtain showing the main components and where the Fig. 7 section is taken from

When we 'cut through' the side guide of a new design fire curtain this is what we see:

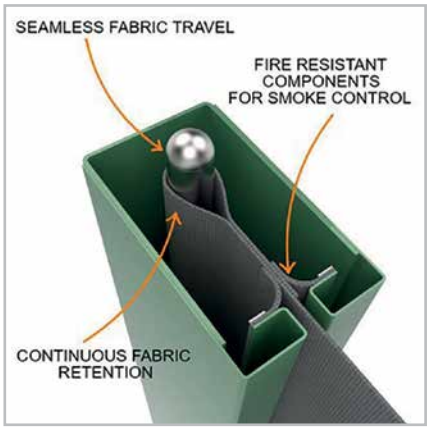

Fig. 7 An example of a side-guide design that does not use hard travelling objects such as fasteners as a means of fabric retention. It also has no fabric penetrations coupled with point loading so is significantly less prone to tears and ripping.

This design prevents the jamming, tearing and other problems associated with traditional curtains. Additionally, it uses only fire-resistant components for smoke control, ensuring long-term reliability. This is critically important as the traditional standard designs use polypropylene filament, and cold smoke seals only last seconds in a fire[2].

THE INDUSTRY'S STEP-CHANGE

The fire curtain industry is undergoing a significant transformation, akin to the shift from video rentals to streaming[4]. Traditional designs with bolts and poppers are being phased out in favour of more reliable, advanced solutions that eliminate the risks associated with older technologies.

Puncturing nuts and bolts or poppers through the fabric of the fire curtain (Fig. 3) is like the 'video rental' design of fire curtains, but worse.

Being a life-safety product, if it jams, tears, or billows with any gaps, fire and smoke can pass through with deadly and devastating consequences.

And the fire curtain equivalent to Netflix's 'streaming' is the newer design as seen in Fig. 7. This simple design solves the common headaches associated with active fire curtains.

These factors combine to give customers a number of recurringly expensive and dangerous headaches. You can read some real customer feedback and experiences on a couple of our posts on LinkedIn[4].

Adexon Fire and Smoke Curtains product was a finalist for the London Construction Awards', Fire Safety Solution of the Year 2023 Award and the team were short listed for the FSM Awards' Fire Safety Team of the Year 2023. The Adexon journey is to make the UK the global leader for active fire curtains through quality, innovation, invention and continuous improvement.

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TED BARKS

WITH THE LIFT INDUSTRY MENTAL HEALTH CHARTER

A new year can give you time to reflect on times gone by, or look to the future. In 2025 I'll be looking at physical activity as it offers numerous benefits for mental health and overall well-being, and you don't have to ascend 1,085 metre (3,560 feet) peaks as my human did in 2024.

Here's a look at how it can help:

1. Managing Stress

Exercise releases endorphins: Physical activity stimulates the production of endorphins, which are natural mood lifters.

Reduces cortisol levels: Regular exercise can lower levels of the stress hormone cortisol, helping to manage stress.

Ted says; take a dog for a walk!

2. Improving Sleep

Enhances sleep quality: Physical activity, especially aerobic exercise, can help you fall asleep faster and deepen your sleep.

Regulates sleep patterns: Regular exercise can help regulate your circadian rhythm, making it easier to maintain a consistent sleep schedule.

Ted says: no issues with this one, I love sleeping!

3. Improving Your Mood

Boosts mood: Exercise can increase the production of neurotransmitters like serotonin and dopamine, which help improve mood.

Reduces symptoms of depression: Regular physical activity can be as effective as medication for some people in reducing symptoms of depression.

Ted says: more dog walks please…

4. Improving Confidence

Enhances self-esteem: Achieving fitness goals, no matter how small, can boost your confidence.

Improves body image: Regular exercise can lead to physical changes that enhance body image and self-esteem.

Ted says: I am a fit young dog and get many admiring comments about my body image.

5. Connecting with Nature

Exposure to natural environments: Outdoor physical activities can expose you to natural settings, which have been shown to reduce stress and enhance mood.

Vitamin D: Sunlight exposure during outdoor activities helps your body produce vitamin D, which is important for mood regulation.

Ted says: I love the great outdoors, so many things to explore!

6. Socialising and Meeting New People

Group activities: Participating in group sports or classes can help you meet new people and build social connections.

Support networks: Engaging in physical activities with others can provide a sense of community and support.

Ted says: here are some links to some of the support groups

Lift Industry Mental Health Charter - Mental Health Support, Virtual Mental Health Services

Information and support - Mind

Get active - Better Health - NHS

7. Managing Symptoms of Depression and Anxiety

Reduces anxiety: Exercise can help reduce anxiety levels through the release of endorphins and by providing a distraction from worries.

Coping mechanism: Regular physical activity can serve as a healthy way to cope with symptoms of depression and anxiety.

8. Memory and Brain Functioning

Cognitive benefits: Exercise increases blood flow to the brain, which can enhance cognitive function and memory.

Neuroplasticity: Physical activity promotes the growth of new brain cells and connections, which can improve brain function.

Ted says: I may be small but I have a big brain

9. Heart, Muscle, and Bone Health

Cardiovascular health: Regular exercise strengthens the heart and improves circulation, reducing the risk of heart disease.

Muscle and bone strength: Weight-bearing exercises help build and maintain muscle mass and bone density, which are important for overall physical health.

10. Reducing the Risk of Long-term Health Conditions

Prevents chronic diseases: Regular physical activity lowers the risk of developing chronic conditions like heart disease, diabetes, and certain cancers.

Improves longevity: Maintaining an active lifestyle is associated with increased lifespan and better quality of life in older age.

Incorporating regular physical activity into your routine can have profound and far-reaching effects on both your mental and physical health. Whether through structured exercise programmes or simply by increasing daily movement, the benefits are substantial and well-supported by research.

The Lift Industry Mental Health Charter

The Lift Industry Mental Health Charter is an initiative which is focused on bringing together the lift industry to support mental health. This includes all lift companies, lift consultants and lift suppliers across the lift industry and their employees. Working together to support the people within the industry with their mental health will make the industry a safer and more supportive place to work.

Clear your mind,
You're not alone
Find help here!

www.liftmentalhealthcharter.com

ELEVATOR PITCH

As we witness a new President take the reins in America, we've taken a trip across the Atlantic Ocean to meet Cordelia Thompson, 'Girl Friday' at Peters Research. Studying abroad for a year, Cordelia's chosen to meet at the Washington Monument, with a nonstop ascent 500 feet above the ground. Taking just 70 seconds, we'll have to be quick!.

DOORS CLOSING, GOING UP...

CORDELIA, TELL ME ABOUT YOUR CONNECTION TO THE LIFT INDUSTRY.

I stumbled into the lift industry by accident, I know nothing about engineering! I was offered some work experience at Peters Research and was then asked to be more involved in the company. As an editorial assistant at Lift Industry News, I create website pages for the magazine and write the newsletter each month. I also help in organising the Symposium and proofread the papers before they are published.

CAN YOU EXPLAIN WHAT YOU'RE DOING AT THE MOMENT?

I'm a third year Politics student at the University of Exeter, and I'm currently spending a year studying abroad at the College of William and Mary in Williamsburg, Virginia, about three hours away from Washington DC. I'm studying 'Government' here which aligns with my degree – it's been so interesting to study my subject within a completely different political context, especially with the US election last year. There's been such a different range of modules to study and the experience has been incredibly valuable. I'll go back to Exeter later this year to do my final year.

WHAT DO YOU LOVE MOST ABOUT POLITICS AND WHAT YOU'RE STUDYING NOW?

The main reason I came here was to be close to the election in 2024. I loved watching the drama, it was like a soap opera! I found it fascinating listening to the political journalists on all my favourite podcasts and hearing their different analysis. I spent a lot of time watching the breaking news and trying to predict what would happen next.

TELL ME ABOUT A RECENT SUCCESS YOU'VE HAD.
I do a lot of debating, competing for Exeter in the European University Debating Championships last year; it was the first time in five years that Exeter have entered. I've also debated at the Oxford Union, and while I've been out here in America I've debated at Harvard. I see those as big successes, debating at some of the biggest institutions in the world.

HAVE YOU GOT ANY ASPIRATIONS FOR THE NEW YEAR?
I have a month off after my studies, so I want to do as much travelling and exploring as possible while I'm over here. I'm planning to go to the West Coast and visit the national parks as well. I'm open to recommendations!

HAVE YOU DISCOVERED ANY NEW PASSIONS WHILST IN AMERICA?
I'm on a mission to try out as many different American food places and experience as much American culture as possible. I've also immersed myself in American politics, which has been incredible - being in DC for the election and seeing how it all happens first-hand, rather than just on TV. I even got the opportunity to go out campaigning for the Democrats which was amazing but very intense!

WHAT DO YOU LIKE TO DO, WHEN YOU'RE NOT STUDYING?
I spend a lot of my time obsessing over the latest political crisis, even when I'm not studying - politics is my passion! I do some of my own political reporting at my university's radio station, and a lot of debating which is taking me all over the US. Also, back in the UK I do a lot of bell ringing at churches in my hometown as well as in Exeter. I've been doing that since I was 11. Last year I was President of the bell-ringing society in Exeter. It's a great team activity which is so rewarding.

I'm also a huge fan of live music, I've recently seen Keane at the O2, ABBA Voyage and I managed to get Taylor Swift tickets for her Eras tour the night before I flew out to America.

IF YOU COULD INSTANTLY BECOME AN EXPERT IN SOMETHING, WHAT WOULD IT BE?
I've always been really interested in law – both my parents work in law – I know if I wasn't studying politics, it would be law. I'd love to be able to know all the history of cases and properly understand where our legal system has grown from. If I could just have all the information in my head, that would be really exciting. I also think it would help my understanding of politics. So much of what politicians do is explained by the legal system around them.

IF YOU COULD TRAVEL BACK IN TIME, WHICH PERIOD WOULD YOU GO TO AND WHY?
I'm a big fan of the musical SIX, about Henry VIII's wives, so I'd like to go back to the Tudor era and witness it with my own eyes. I think it would be quite a time to be alive – terrifying as a woman maybe, but I'd like to see it.

AND FINALLY, IF YOU HAD TO CHOOSE YOUR FAVOURITE LIFT, ANYWHERE IN THE WORLD, WHICH ONE WOULD IT BE?
I think I'd have to opt for the Washington Monument at the moment! It was the world's tallest structure between 1884 and 1889, until the Eiffel Tower overtook it. It's still the world's tallest obelisk though, and the views from the observation deck are just incredible. You can see nearly 25 miles in every direction, including the US Capitol and the White House.

It seems a very fitting place to stand, witnessing US history being made once again. I can't think of a better spot to take in the magnitude of America's ongoing story and enduring patriotic spirit.

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Run by Lift People for Lift People

The UK Lift Industry Charity Mission... The relief of financial hardship and provision of appropriate support where required to industry colleagues and their families who have been injured whilst working or employed within the industry.

The Charity has made numerous donations to individuals and the families of individuals who have been injured or sadly killed, whilst working in the Industry. We are continually looking for opportunities where we can assist.

Can we help you, can you help us, would you like to join in the next **2023 Cycling Challenge** just email

reiss.stygal@aa-electrical.com
www.liftindustrycharity.co.uk

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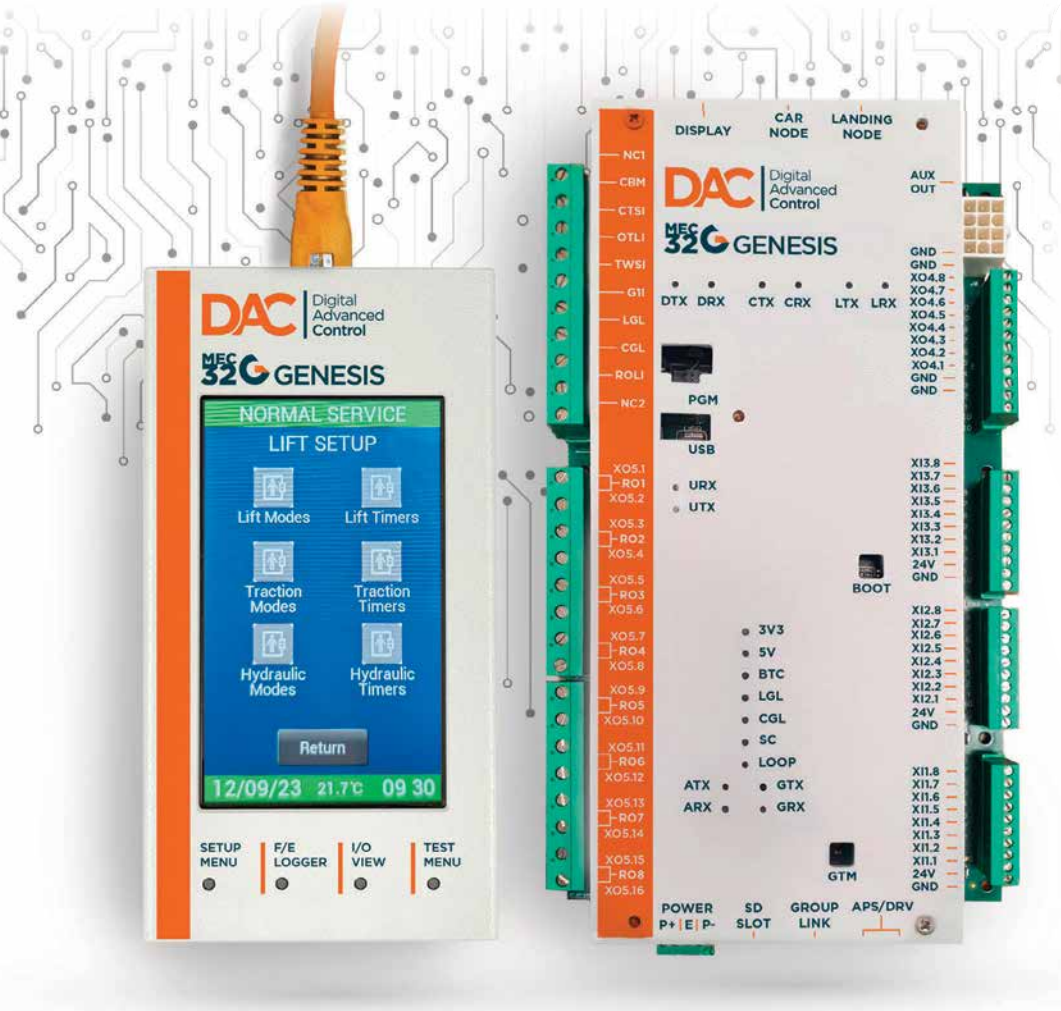

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