



Transformative Lighting Technology

Expertly engineered LED lighting tailored
to your precise environmental needs

 **MIDSTREAM**

AVIATION | SPORTS
MARITIME | HORTICULTURE

Contents

About us and you	2
The Midstream story – Launch to market leader	3 - 4
Pioneers from the start – Why you can rely on us	5 - 6
Our Lighting Design Team – Going that extra mile	7 - 8
Our sectors	9 - 10
Aviation: Experience matters	11 - 12
Sports: Performance is everything	13 - 16
Maritime: Reliability is paramount	17 - 20
Horticulture: Engineering growth	21 - 24
Midstream solutions – our product range	25 - 28
Midstream Services	29 - 32
The company we keep	33 - 34

About us and you

We're dedicated to designing the most highly advanced, efficient and innovative LED lighting solutions for the world's most critical and major infrastructure.

These solutions are manufactured to the highest quality standards to provide long-lasting, best-in-class lighting solutions. And our technology is specifically engineered for applications that solve the challenging and complex needs of our clients. Needs like:

- Reducing energy consumption.
- Cutting maintenance costs.
- Minimising environmental damage.
- All whilst vastly improving the quality of their lighting.

Our clients include major international airports, sports stadia, busy maritime container terminals, and commercial horticulturalists – and more.

That's not all. We're an innovation and knowledge hub that works with designers and architects on lighting design too. Our hub is also there to educate and guide clients through this technically challenging space.

What we'll bring you

- Our **vast global knowledge, expertise, proven record of success and understanding of compliance needs** across all sectors, locations and climates.
- A **solution and design-driven approach** for retrofit projects to complex and critical greenfield solutions.
- We **own our Product Design and R&D teams and make continued investment in product development** – to ensure we've got the experience and flexibility to meet your demands.
- A team you can trust. Why? We've designed and **delivered 1,000s of global lighting solutions**. Who else can say that?
- **Exceptional customer support 24/7** for you, your consultants, contractors, and end-users whenever and wherever you need it. Just as you'd expect from the industry leader.

The Midstream story

Launch to market leader

From being the 'new kid on the block' to global market leader took us less than ten years. And we've picked up award after award on our route – proving we're the No.1. Why? Quite simply because that's where we set our sights. We're a pretty determined bunch.

We deliver. And we will for you too.

Award-winning company

2019: The Sunday Times Fast Track 100
2019: SME Export Track 100
2019: Deloitte Fast 50 awards

2018: Financial Times 1000 Fastest Growing Companies in Europe

2017: Deloitte Technology Fast 500 Winner

2018: Queen's Award for Innovation
2018: Financial Times Future 100

2015: The Inter Airport Innovation Award

Privately held company.
Founded in

2009

3 offices

Corporate HQ, London
R&D Centre, Milan + US HQ, Miami.

35

Certified Global Partners
& growing.

Centrally managed

All projects managed centrally for best-in-class service and support.

2 manufacturing facilities

UK & Europe.

Global

Serving global markets
& technically niche sectors.

24hr

Service and support.

8

International awards
& counting.

2009

Midstream founded as lighting distributor.

2010

1st high mast LED project globally completed by Midstream.

2013

Gatwick becomes 1st major airport to go fully LED airside.

2014

Midstream R&D facility opens in Milan.

2015

Midstream R&D Wins **Airport Innovation Award.**

Opened UK manufacturing facility.

2016

Our second manufacturing site opens in Romania.

2017

50th global airport project completed.

Deloitte Technology Fast 500 Winner.

2018

Wins Queen's Award for Innovation.

1st major US project completed to UL specification.

2019

100th port & airport project completed.

Wins **Sunday Times Fast Track 100 Award.**

Recognised as one of the top 50 UK tech companies by growth (Deloitte).

Over 500 lighting projects completed.

Pioneers from the start

We've been a pioneer in LED lighting from the very beginning.

We knew the challenge of delivering economically viable products with very high power and advanced thermal management properties wasn't being met.

So, we made that the focus of what we did from our very first day.

We rose to that challenge – and more than met it. How? By creating a suite of proven LED products suited to a full range of sectors and performance needs.

We still invest heavily in R&D to make sure our products incorporate the latest technology, know-how, and processes. So, we've always got the right solutions for whatever challenges come along. We constantly work closely with our clients to develop products suited to the tasks and sectors they are designed for – with innovation and reliability at the forefront of our solutions.

That's why we're trusted by many global names to deliver projects to specification, on time and within budget. See the back page to find out who we've worked with.

Along with the technical and budgetary benefits our LED solutions provide, there's the added advantage of significant energy savings. With most projects saving around 40-60% in energy consumption, the environmental benefits of LED lighting are huge.

And finally, we've always believed from day one that for our company to be great, we've got to offer both top-end products and superior service. Both are as important to us as each other. So we do.

Midstream is the first choice for customers who cannot compromise on quality and reliability.



Why you can rely on us

- We're best-in-class when it comes to product design and manufacturing.
- We've got manufacturing facilities in the UK and Europe.
- We're always looking for ways to make all the things we do things better and easier – for us and you. So, we're continuously monitoring and improving our design and manufacturing processes.
- Our integrated management systems cover ISO 9001, 14001 and 45001.
- And we're certified to ENEC (Europe) and UL (USA and Canada) requirements.
- Plus, we've always passed any facility audits by independent certification bodies.

Our lighting design team

Going that extra mile

Other suppliers often charge for the design process. And if changes are needed during the project, they charge even more. Or, some just farm-out the design phase altogether.

We don't do any of this.

We don't charge for any design – even if what's needed changes as the project develops. Our in-house Design Team has years of experience and expertise in delivering world-class lighting solutions – they're masters at planning and concept design. **Including:**

- Master planning and detailed design.
- Specification writing.
- Providing all documentation like As-built drawings and CAD files in open formats – to make your life easier.
- Using IES Files for all fixtures to verify the designs.
- Budget setting.
- Value engineering.

And, as an in-house team, they'll know all about your project and will be able to turn things around in a few days – not weeks or even months.

We maintain an ethos of transparency, mutuality and efficiency to avoid needless changes, lost time and unnecessary hidden costs.



Our sectors



Aviation

In this sector experience really does matter. And no one has more experience than us.

From international hubs to military bases, we've done it all.



Sports

Lighting performance is everything in sports.

Whether it's the world's biggest sports stadia, training pitches, indoor facilities or a public sporting complex... we're world-class players.



Maritime

We've tamed some of the most challenging environments.

From ports and terminals in the US to sites across Europe and Asia, you can always rely on our solutions.



Horticulture

We're engineering growth with lighting solutions for commercial growers, from greenhouses to indoor facilities.

Aviation

Experience matters

We're one of the world's leading manufacturers of airport flood lighting systems.

We specialise in the delivery of proprietary and innovative LED lighting solutions for:

- Aprons.
- Large-area landside applications.
- Areas with OLS restrictions.
- De-icing facilities.
- And more.

We've supplied equipment to operators globally and collaborate with design consultants, engineers, contractors, and AGL suppliers to deliver fully compliant solutions.

No one can match our experience. We've worked in a range of countries and environments. From major international hubs like London Gatwick and Rome Fiumicino to small regional airports such as London City to highly sensitive military sites – we've done it all.

- 100+ global airport projects completed.
- We're the leading supplier of LED lighting systems for airport aprons.
- Fully compliant lighting design – including ICAO, EASA, FAA, MOS139, iEs RP37 etc.
- Easy retrofit solutions to existing infrastructures.
- Heavy-duty, highly efficient, durable luminaires.
- Plug and play including control systems.
- Proprietary technology.
- Low-glare solutions.

Our projects include:

Athens Airport, Durban Airport, Dubai Airport, Queen Alia International Airport, Muscat Airport, Bogota El Dorado Airport, Frankfurt Airport, Kuala Lumpur Int'l Airport, Quito International and many more...



‘The change was likened to coming out of the Victorian age into the modern world.’

LES MITCHELL, AIRSIDE PROJECT DELIVERY LEAD – LGW



AVIATION PROJECT CASE STUDY

London Gatwick Airport (LGW)

Opened as an aerodrome in the late 1920s, LGW started taking commercial flights in 1933. Now, with over 46,000,000 passengers travelling through it every year, it's the second busiest single-runway in the world.

The challenge

There were two main reasons LGW decided to move from HPS to LED lighting:

- A number of their stands weren't meeting EASA requirements.
- They wanted to reduce their energy use by 20% compared to 1990s levels.

So, they came straight to Midstream Lighting to help them meet these challenges.

Sector: Aviation
Customer: LGW
Number of passengers: 43,000,000
Runways: 1
Stands: 119
Aircraft movements: 275,000
Project date: 2017
LED floodlights installed: 564

Type: Titan Series
Increase in light levels: 50%
Lux average values: 30 Lux
Energy savings:

- 256kW vs 430kW
- 40%
- Payback £50,000 pa.

Payback time: 15 years

Our solution

After a complete review of LGW's current lighting facilities, we put our Lighting Design Team on the case. The solution they came up with was to upgrade all sodium apron lighting to our flagship Titan Series – with over 560 LED floodlights being installed. This made LGW the first major European airport to have a fully LED-lit and EASA-compliant apron.

More importantly, the airport is now safer for staff and passengers, it's more secure, and with less downtime runs more smoothly.

Before and after technical comparison

	SODIUM	LED
Number of projectors	861	564
Nominal power for single appliance	400 kW	455 kW
Absorbed power (measured data)	500	455
Total power absorbed	430.5	256.62
Energy consumption per year	1,885,590 kWh	1,123,996 kWh
Colour Temperature	2,300K	5,700K
Colour Rendering Index	30	70
Average Light Level	20 Lux	30 Lux
Uniformity	0.2	0.3
Energy Saving	/	40%

Sport

Performance is everything



Sports lighting needs the right products and the right level of expertise to deliver exactly what's needed. And no one does that better than us.

It's something we've done for stadia, training areas, all-weather pitches, indoor facilities, aqua centres, and many other sporting arenas.

Our range of high-power LED sports lighting products allow us to deliver to the most exacting specifications – FIFA or UEFA rules, or to local government or sporting bodies' needs. They also mean we can deliver energy-savings and improvements in lighting conditions, reduced glare and optimised controls.

Our clients include international, national and club stadia for all types of sports. We also work with small and medium-sized contractors, commissioned by sport development clients.

- Full turnkey solutions – from start to finish.
- Extended service and warranty.
- Best-in-class product innovation – for both new build and easy retrofit solutions.
- The highest quality standards for all-weather smaller facilities or the largest stadia.
- Proven energy savings – up to 50% and beyond – to support your environmental goals.
- Reduced cost of replacement and maintenance – meaning less downtime.
- Fully integrated solutions for remote control and management.





SPORT PROJECT CASE STUDY

Dulwich Hamlet FC

In 1893 two keen young footballers went to Lorraine 'Pa' Wilson with one shilling and eight pennies in their pockets and asked him to set up a football club. Dulwich Hamlet FC was born. Since then the team has had its share of success and disappointment. It's dipped in and out of the Isthmian League Premier Division. But, it also won the FA Amateur Cup three times. And, it was recently promoted to the National League South.

The challenge

2019 was a great year for Dulwich Hamlet FC and its fans. A long-running dispute about ownership of the Champion Hill ground been resolved, and it had won promotion to a new league. However, this success came with new challenges to face.

- The metal-halide lamps at the ground weren't up to the National League South's requirements. So, they needed to be replaced.
- As a small, fan owned club, it works under certain budgetary constraints.

Sector: Sport

Customer: Dulwich Hamlet FC

Club founded: 1893

Stadium capacity: 3000

Number of masts: 4

Project date: 2019

LED floodlights installed: 20

Type: Modus Series

Increase in light levels: 120 to 220 Lux

Lux average values: 220 Lux

Our solution

As the club's budget was very tight, a retrofit approach was the only way to go. This meant we had to stay within the limits of the ground's four current lighting masts. To achieve this, we fitted the masts with our Modus series – one of the lightest on the market. This solution has not only met the National League South's regulations, it's also delivered significant operational, maintenance, and energy savings – a huge boost for the club.

Before and after technical comparison

	SODIUM	LED
Number of projectors	24	20
Nominal power for single appliance	2 kW	1.2 kW
Average light level	120 Lux	220 Lux
Uniformity	0.6	0.75

Maritime

Reliability is paramount

Delivering the best port, terminal and large area lighting solutions internationally is something we've been doing for a long time. And we're the best.

Why are we so good at it? Our advantage lies in our proprietary optic system which allows ports and terminals to achieve the required lux levels just where they need it. Because what's the point in lighting the top of container stacks or the waterside? Our technology has been designed with this in mind. That's why we're the preferred supplier to many of the world's busiest and biggest ports and terminal operators.

- Retrofit, new build, and turnkey solutions.
- Plug and play compatibility.
- Tested to withstand harsh marine environments.
- Wireless controls enabled.
- Low glare for surrounding areas and zero tilting.
- Stainless steel construction for protection from saline environments.
- A high degree of voltage surge protection.

Our projects include:

Port of LA (US), Port of Long Beach (US), Port of Felixstowe (UK), Aarhus Port (Denmark), Intermodal Terminal Venice (Italy), Port of Casablanca (Morocco), Belawan Terminal (Indonesia) and many more.





MARITIME PROJECT CASE STUDY

Terminal Intermodale Venezia (TIV)

TIV's location has made it the perfect meeting point between land and maritime transport for goods and commodities coming from, or going to, the Mediterranean, Black Sea, Middle and Far East and India. Dealing with both conventional and containerised modes of transport, it handles 320,000 TEU and anticipates a 10-15% growth in the next five years.

The challenge

- TIV needed to replace its outdated and highly inefficient 2kW HPS floodlights installed on aging high masts – without having to replace crowns or bracketry.
- Some of these masts were suffering from excessive weight loads. So, reducing wind exposed surface area and weight was paramount.
- The solution also had to guarantee a light level of 20 Lux – in a working environment often affected by dense fog.

Sector: Maritime

Customer: TIV Terminal Intermodale Venezia

Location: Italy

Working area: 130,000m²

Average aircraft movements: 275,000

Project date: 2017

LED floodlights installed: 60

Type: Titan Series

Number of masts: 6

Increase in light levels: 50%

Energy Savings: 62%

Lux average values: 20 Lux

Our solution

We installed our Titan 720 floodlights, which thanks to the compact size and flexible mounting options had no problem fitting on the existing structures.

Their high lumen output also guaranteed the required light level in a true 1 to 1 replacement, light spill was reduced to zero, helping to cut the light pollution of the terminal, which sits in the lagoon opposite the famous San Marco Square.

Before and after technical comparison

	SODIUM	LED
Energy consumption per year	483,750 kWh	181, 890 kWh
Colour temperature	2,700K	5,000K
Colour rendering index	25	70
Average light level	20 Lux	20 Lux
Uniformity	0.11	0.28
Energy savings		62.5%

Horticulture

Engineering growth

The challenges the horticulture industry face – increased demand, environmental, and political – continue to rise. To help growers to overcome them we've created Flare

An effective alternative to natural sunlight or HPS / SON-T grow lights, Flare is an innovative and pioneering solution for commercial horticulture growers. And, even better, it can be tailored for your exact needs.

Flare benefits include:

- Faster germination and root growth.
- Earlier flowering and controlled plant growth.
- Environmental and space maximisation.
- Significant energy use reduction
- And, most importantly – increased yields.

Plus, as with all Midstream LED solutions, there are environmental and financial benefits thanks to the energy savings and efficiencies Flare offers.

The expertise you need

We've completed many horticultural projects around the globe in different environments and on different crops. So, our team of experts can guide you on how to optimise your environment and advise on the lighting solution needed.

Some key features of Flare

Versatility – it can be used in a broad variety of applications.

Reliability – Flare is built for heavy-duty usage.

Practicality – the compact design reduces significantly the shadowing during the day.

Flexibility – Flare can be equipped with integrated or remote drivers.

Performance – very low LED temperatures deliver high performance and a long lifetime.

Durability – it's entirely waterproof and constructed to resist wet corrosive environments.



Flare in action

Areas already experiencing benefits of Flare and its spectrum flexibility include:



Tomatoes

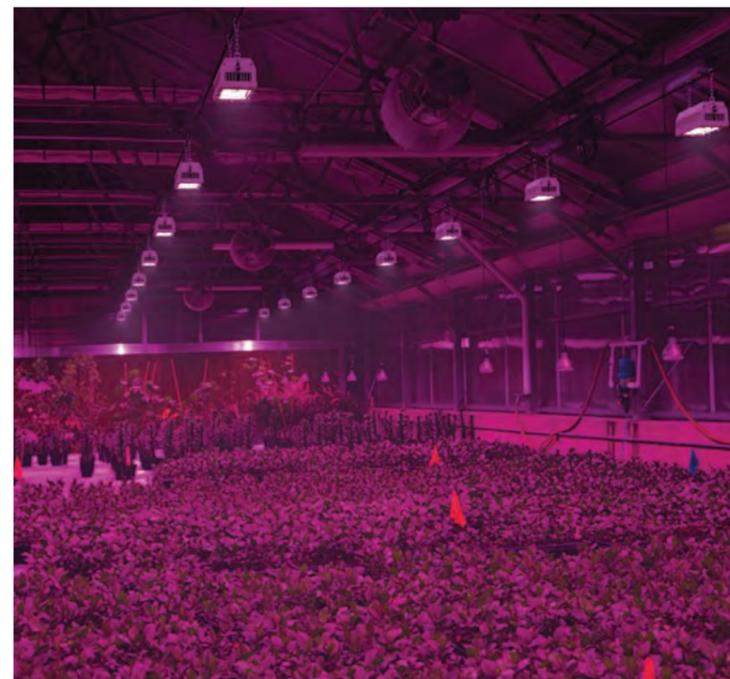
Getting the right balance between biomass production and leaf building is critical to producing an optimal yield when it comes to tomatoes. Flare helps deliver that. It can be set to give exactly the wavelength needed to support the vegetative stage for robust plant development and flowering. The result? More fruit per plant.



Flowers

Spectrum precision is key when you're looking to grow stunning flowers and ornamental plants on an industrial level. Leaf formation, stem inclination, flower characteristics, and positioning all need a consistent, high-quality spectrum for uniform production. And Flare is the perfect solution for this.

Working with agronomists, the high flexibility Flare offers can be used to produce a tailor-made spectrum to increase the yield of different floricultural applications. That's why we're a leader in delivering highly stable systems for larger-scale projects.



Leafy greens

Our research has shown that the addition of broad-spectrum light, on top of the two intense absorption bands of 450nm blue and 600nm red wavelengths, increases lettuce speed of growth and yield significantly. Or, to put it simply, Flare helps you grow higher quality plants – faster



Cannabis

The intensity, spectrum, and quality of light for medicinal and legal cannabis cultivation has been shown to greatly increase production yield. The quality of things like CBD and THC content, plus the taste characteristic also rely on this too. Flare can be used to give a massive increase in plant output when compared to HPS fixtures – with six-times peaks for certain auto-flowering strains.

Wherever you use it – Flare gives you the competitive advantage.

Midstream Solutions

Our product range



The Titan Series

AVIATION, MARITIME

- Designed to offer the maximum level of lighting performance possible.
- Can be configured and optimised for very specific applications.
- Manufactured to survive the harshest of environments.
- The go-to product for many of our aviation and maritime clients for years.



The Atlas R Series

MILITARY AVIATION, LARGE SPORTS AREAS

- It offers very high lumen packages with limited weight and is built with remote driver capability.
- High quality and high performance.
- Can be used for both retrofit and new builds.



Flare

HORTICULTURE

- An effective alternative to natural sunlight or HPS / SON-T grow lights.
- Proprietary technology allows stable spectrum for product lifetime.
- The Flare PCB is completely waterproof to resist corrosive environments.
- Extremely low LED temperatures, for high performance and durability – over a long lifespan.



The Modus R Series

SPORTS STADIA

- A lightweight, extremely versatile product designed for both retrofit and new builds.
- It offers a very high lumen package as well as remote driver control.
- It meets industry standards and specifications across the applications it's used for.



The Modus S Series

SMALL & MEDIUM-SIZED SPORTS AREAS

- Offers high lumen packages with limited weight.
- Minimises the number of floodlights required per pole at the most competitive price.
- It can be used for both retrofit and new builds and meets industry standards and specifications across the applications it's used for.



The Atlas Series

MARITIME, AVIATION

- A highly efficient LED floodlight.
- Made from recyclable, extruded aluminium and powder coated stainless steel, with PMMA weather-proof lenses and anti-reflective tempered glass screens to survive harsh environments.
- Versatile bracket and adapters to fit any existing mast infrastructure make this the right solution for retrofit projects e.g. as a substitution for 1,000W HPS downlights.
- UL certified and DLC listed.



The Modus Series

AVIATION, MARITIME

- A modular design with high levels of overall performance.
- The perfect solution for 1 vs 1 replacements.
- It meets industry standards and specifications across the applications it's used for.
- Designed with multiple photometric distributions, versatile brackets, and stainless steel mechanics.
- It can be used in all environments, providing high colour rendering and full control capability as standard.



Mobile Tower Series

AVIATION

- Multi-directionally adjustable mobile floodlight tower with four highly efficient, asymmetric 326W LED floodlights.
- Designed specifically for large area lighting with low-glare conditions. And for heavy-duty mission-critical application where quality and reliability are paramount.
- Compact and easy to transport and handle.



The Docker Series

MARITIME

- Heavy Duty LED floodlights built to resist the harshest environments and for applications needing high performance and high durability.
- A specialty product developed specifically to provide lighting for critical maritime infrastructures.
- Durable and reliable to provide maintenance-free operations with a wide range of optics designed for tailormade solutions.

Midstream Services

Lighting design

We provide expert lighting design services right from the start of a project free of charge – even if your requirement changes as the project develops. And we make sure our designs maximise your budget to get the very best lighting results.

Our design services include everything from the initial design consultations – including specifications, rendering, layout planning, photometrics, energy efficiency calculations and much more.

We're more than happy to work with consultants, partners, operational managers, engineers and whoever else needs to input to the project. Because creating the perfect lighting solution is a team effort.

Installation

To make sure your installation goes smoothly, our team of expert engineers and supervisors can be on-site from start to finish. Our installation teams have years of experience across all our sectors.

So, whatever the project or installation needs, we'll be able to support you at every stage. This includes everything from mast installation, fitting and assembling the lighting solution, compliance checks and beyond, wherever the project is located.

Maintenance

The great thing about LED lighting solutions is they require far less maintenance.

It's important though that you protect your investment to maximize the life span and return on investment – especially in sectors like aviation, maritime and sport where compliance and regulations come into play. We have the expertise and equipment to manage this for you.

Continued overleaf...





Midstream Services cont...

Rebate and incentive applications

We'll support and manage the entire process of rebate/incentive applications for you. With our experience of securing rebates across all our industries, we can manage this complex and challenging process.

Training and Education

Many of the sectors we work in have very strict safety regulations – not just for the installation stage but for the final solution too and our experienced team is on hand to support you.

Whether a partner, client, consultant or engineer, with us you're covered. We offer a range of training and educational courses to support both our product and sector partners. From technical training on our product range to installation guidance or photometric testing guides and beyond.

Advisory and consulting

We've many years of in-depth experience across our specialist sectors, plus a very experienced management and advisory team so, we can support, advise and consult at any time whether for a completely new project or to look at existing solutions

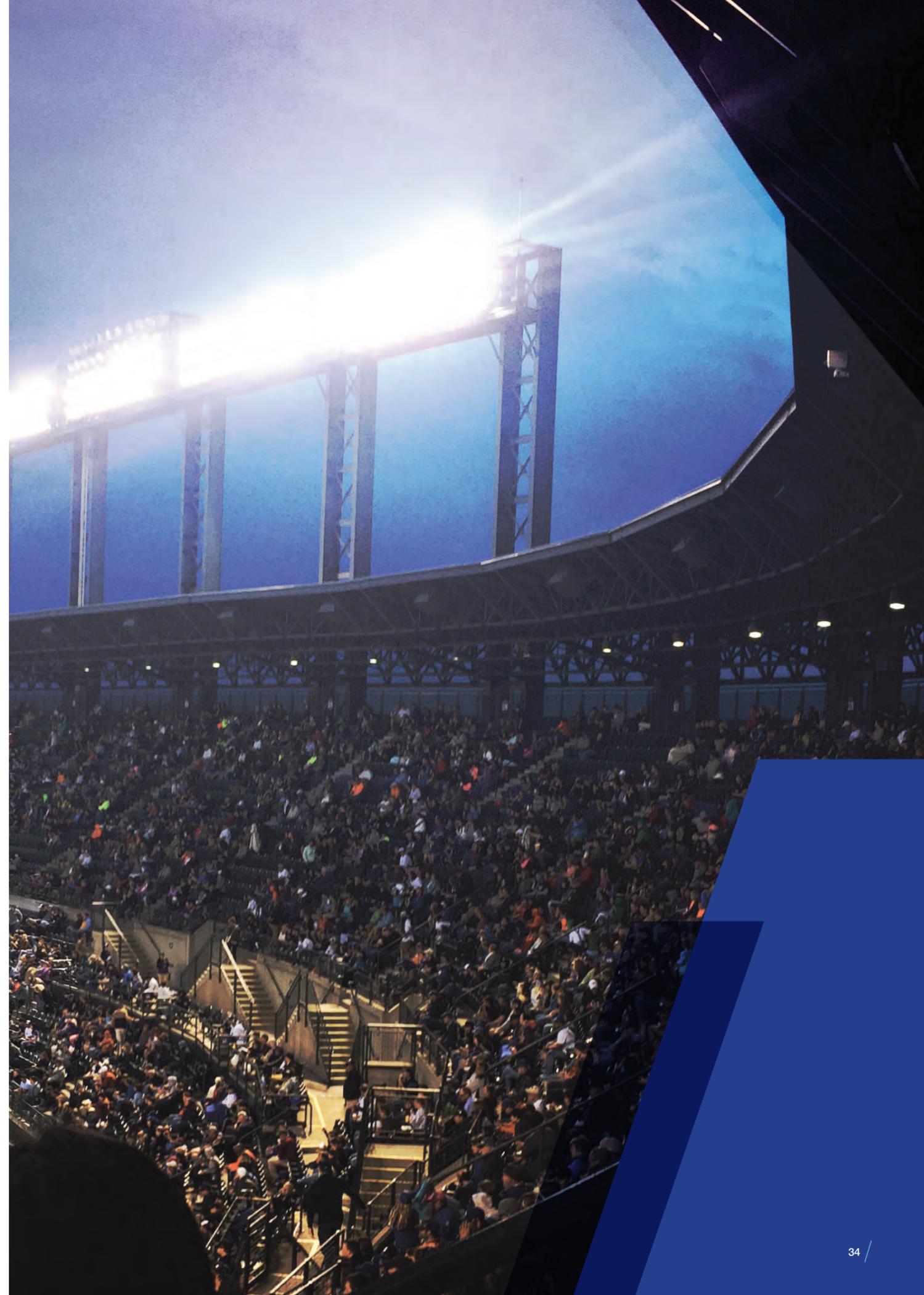
Financing

We can provide you with project financing solutions for your lighting projects through our approved financing structure – helping you to manage budgetary concerns and hurdles.

The company we keep

Our global clients

As the saying goes, 'You can trust a person based on the friends they keep'. That's very true, and it applies to companies too. Here are just some of the companies that have and continue to trust us.



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