

LARGE AREA LIGHTING

Luminous projects around the globe



ewo's growing presence in the airport sector

- Aalborg Airport $\Delta \Delta I$
- AAR Aarhus Airport
- ABI Abidian Airport
- ΔR7 Aberdeen Airport ADL Adelaide Airport
- ARN Stockholm Arlanda Airport
- AUS Austin-Bergstrom International Airport
- BOS Logan International Airport (Boston)
- BQN Rafael Hernández Airport (Puerto Rico)
- BRN Bern Airport
- BSI Basel Mulhouse Airport
- BTH Hang Nadim Airport
- CDG Paris Charles de Gaulle Airport
- CPH Copenhagen Airport
- DEN Deriver International Airport DOH
- Hamad International Airport (Doha) Ngurah Rai International Airport (Denpasar) DPS
- DUD Dunedin Airport
- DUS Düsseldorf Airport
- DXB Dubai International Airport
- EBJ Esbjerg Airport
- EIN Eindhoven Airport
- East London Airport FLS ETZ
- Metz-Nancy-Lothringen Airport EUX F.D. Roosevelt Airport (St. Eustatius)
- FAT International Airport Fresno Yosemite
- Martinique Airport FDF

- Aéroport Nîmes-Alès-Camargue-Cévennes
- FRA Frankfurt Airport
- GRJ George Airport

FNI

- HAJ Hannover-Langenhagen Airport
- HAM Hamburg Airport
- HEL Helsinki-Vantaa Airpor
- HLZ Hamilton Airport
- HRE Harare International Airport HSH Henderson Executive Airport (Las Vegas)
- INN Innsbruck Airport
- King Abdulaziz International Airport (Jeddah) IFD
- IRO Kilimaniaro International Airport
- KMS Kumasi International Airport
- KUL Kuala Lumpur International Airport
- 1 N 7 Linz Airport
- MEL Melbourne Airport
- MKY Mackay Airport
- MUC Munich Airport
- MST Maastricht Aachen Airport
- NRT Narita International Airport (Tokio)
- NSN Nelson Airport OAK Oakland International Airport
- OOL Gold Coast Airport
- OSD Åre Östersund Airport
- OSL Oslo Airport
- PUF Pau Pyrénées Airport
- RDZ Rodez Marcillac Airport

- RIL Rifle Garfield County Airport
- RIX **Riga International Airport**
- RTM Rotterdam The Haque Airport RTW Saratov Airport
- RUN Roland Garros Airport (Réunion)
- SCL Aero Puerto de Santiago de Chile
- SIN Singapore Changi Airport
- SJC San José Airport
- Salt Lake City International Airport SLC
- STR Stuttgart Airport
- SXE Berlin-Schönefeld Airport
- SYD Sydney Airport
 - THU Thule Air Base (Grönland)
 - TPA Tampa International Airport
 - TRN Turin Airport
 - TSV Townsville International Airport
 - TXL Berlin Tegel Airport VCE Venice Marco Polo Airport
 - VFΔ Victoria Falls Airport
 - VIF Vienna International Airport
 - WRO Wrocław-Copernicus Airport
 - Yakutsk Airport YKS YPI
 - Pickle Lake Airport YQR Regina International Airport
 - YVR Vancouver International Airport
 - ZCO Aeropuerto Maguehue Araucania
- ZRH Zürich Airport

Pioneers in a broad field

When illuminating large areas, key factors are performance, durability and efficiency. The objective in illumination is to ensure precision, homogeneity and 0% light pollution.

ewo already exploited the potential offered by LED technologies for large areas as far back as 2010 at Venice cargo terminal and since its project at Innsbruck Airport, has been conquering airports of various sizes one by one throughout the world.

At present, around 100 airports worldwide – from desert regions to Greenland – rely on ewo.

A development that never stops.

The R-System's third generation of floodlights is on the market now, since 2020.

R-System gen3 is optimised for

AIRPORTS PORTS TRAFFIC LOGISTICS SPORTS

R-System gen3 MAX forges ahead into new fields such as

SPORTS

ewo continues to pioneer in this field.

Access all Areas

Optimised, more powerful and ready to tackle any type of large area lighting. ewo's portfolio of high-power floodlights with modular features meets all requirements and demands at airports, ports, traffic routes, logistics areas, sports facilities and even sports stadiums.



Stuttgart Airport / Stuttgart, Germany, 2014 / act consult AG

PORTS



Venice, Italy, 2010 / Tifs Ingeneria Padua



ÖBB Container Terminal, Wolfurt / Austria, 2019 / A3 Jenewein Ingenieurbüro GmbH





Vintl, Italy, 2015 / Engineering 3M Srl

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TRAFFIC



Zero Center, Treviso, Italy / 2010

R–System gen3 Recipe for success: simplexity

PORTS

Cost efficiency with maximum performance and a focus on what matters. At ewo we have a word for this: simplexity. Because simplexity in design and application optimises performance by R–System gen3 in any large area, with up to 480 LEDs. An astonishing lifetime of over 100,000 hours and a newly developed optical system offer the utmost in performance along with precise illumination.

AREAS OF APPLICATION	airports, ports, logistics centres sports facilities and roads
MAX LUMEN PACKAGE	up to 205,500 lm
CURRENT FEED	up to 1,850 mA depending on ambient temperature
AMBIENT TEMPERATURE RANGE	-40 to +45 °C
OUTSTANDING LIFETIME	L80B10 > 100,000 h
DARK SKY	full-cut-off optic at 0°, optional visor up to 7° (E–Series)
ELECTRONIC OPERATING DEVICE	on request with DALI2 or line switch, CLO and DMX
SMART LIGHTING	control modules for different communication standards available upon request
LENSES	made with UV-stabilised polycarbonate (E–Series) or PMMA (A–Series)
COVER	single-pane safety glass (ESG)
LUMINAIRE HOUSING	in die-cast aluminium
BRACKET	made of hot-dip galvanised steel, on request with swivelling bracket for floor, wall and ceiling mounting
FINISH	polyester powder coating, white aluminium (RAL 9006 / DB 701)



Left R2 (144 LEDs) / right R4 (288 LEDs)

AIRPORTS	PORTS	TRAFFIC	LOGISTICS	SPORTS
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R–System gen3



MODEL	LIGHT DISTRIBUTION	LUMINOUS FLUX [Im	MAX. POWER [W]	CURRENT FEED [mA]	LEDs
R2	E-Series	89,500	807	1,850	144
R4	E-Series	179,000	1,614	1,850	288
R2	A-Series	117,000	905	1,200	240
R4	A-Series	205,500	1,496	1,000	480



PORTS

R–System gen3 Superior flexibility thanks to modular design

Each project has its own specific requirements. That's why we have developed a modular product system, which we can modify and fine-tune down to the smallest details, allowing us to produce sophisticated and technologically advanced solutions in different settings as well as a sustainable spare parts supply system.



1 CIRCUIT BOARD	individually interchangeable	wide-ranging configuration options
2 LENS OPTICS	non-yellowing PMMA and UV stabilised PC	different light distributions
3 COOLING SYSTEM	reliable temperature management	optimal thermal performance
(4) GLASS COVER	high transmittance level	protection of optical components
5 ASSEMBLY BAR	infinitely variable, 360° swivelling	floor, wall and ceiling mounting
6 DRIVER CASING	separate mounting	for optimal thermal separation



R4 / Tilt 5° EP09-L / Asymmetric Extra Forward - Left (144 LEDs) / EP09-R / Asymmetric Extra Forward - Right (144 LEDs)



R2 / Tilt 5° EP09-L / Asymmetric Extra Forward - Left (72 LEDs) / EP09-R / Asymmetric Extra Forward - Right (72 LEDs)

R–System gen3 MAX Top performance for sports

When it comes to sports stadium lighting, maximum performance and output are an absolute must. And that is just what the R–System gen3 MAX delivers with about 250,000 lm. Moreover, it is compatible with DMX-DALI converters for light shows and, with its swivel mount, can be mounted to cope with any situation.

AREAS OF APPLICATION	Recreational, semi-professional and professional sports areas
HIGH LUMEN PACKAGE	up to 265,000 lm
CURRENT FEED	up to 2,200 mA, depending on ambient temperature
AMBIENT TEMPERATURE RANGE	-40 to +45 °C
OUTSTANDING LIFETIME	L80B10 > 30,000 h
ELECTRONIC OPERATING DEVICE	on request with DALI2 or Line Switch, CLO and DMX
SMART LIGHTING	control modules for different communication standards available
LENSES	UV-stabilised Polycarbonate
COVER	single-pane safety glass (ESG)
LUMINAIRE HOUSING	in die-cast aluminium
BRACKET	made of hot-dip galvanised steel, on request with swivelling bracket, for floor, wall and ceiling mounting
FINISH	polyester powder coating, white aluminium (RAL 9006 / DB 701)



Top performance in sport, shown in its best light

R–System gen3 MAX



MODEL	LIGHT DISTRIBUTION	LUMINOUS FLUX [Im]	MAX. POWER [W]	MAX. CURRENT FEED [mA]	LEDs
R2-MAX	A-Series	132,500	1,079	2,000	192
R4-MAX	A-Series	265,000	2,357	2,000	384
R2VMAX	E-Series	96,630	965	2,200	144
R2-MAX	E-Series	193,000	1,930	2,200	288



R–System R1

The tried-and-proven R–System R1 is still available and optimised for applications such as traffic areas as well as small sports areas (tennis courts etc.).



lens optics made from PMMA

luminaire body from die-cast aluminium

luminaire cover of reinforced safety glass (ESG)

Heliport projector

ewo's heliport luminaire is suitable as a surface light on platforms and landing fields for helicopters. The permissible total height of 25 cm under ICAO is not exceeded and therefore does not create any obstacle on the platform. Thanks to stepless adjustment of the glare visor, a glare-free landing can be guaranteed.





LIGHTING UNITS	holds 1 lighting unit board
CURRENT FEED	200-500 mA
LIFETIME	L80B10 > 100,000 h
ELECTR. OPERATING UNIT	electronic operating device 1-10 V or stand-alone pro

MATERIALS

j[∰] ① = 0.12 →[∰] ② = 0.04

OPTIONAL External power supply unit in SELV AG04 Symmetric Elliptical 17°- 46°

d (16 LEDs)

ce on request with DALI interface, ogramming

The result: greater precision and considerable energy efficiency. <u>63% less energy consumption</u> from 2,200 kW to 810 kW, with annual energy savings of 7,000 MWh.

Dubai International Airport DXB A global hub, made ship-shape for the future

AREA	12.5 km² / 12,500,000 m²
PRODUCT	R-System gen1
QUANTITY	1.000 floodlights
POLE SYSTEM	Europoles

With 90 million passengers per year, Dubai International Airport is one of the most important hubs in the world.

Here all the halogen lights have been completely replaced by <u>1,000 LED floodlights</u> from ewo. What is remarkable about this is a reduction in total number of floodlights at the same time as a boost in the <u>lux value to 30 lx</u>.



Dubai International Airport DXB / UAE / 2020



Safety at the workplace and therefore for 90 million annual passengers through precision lighting





"Safety is the crucial issue in air traffic, and lighting is of paramount importance. Lighting on the apron enhances safety when important standards are met, when it is durable and reliable. Our R–System will do this - no compromises."

Hannes Wohlgemuth, CEO



Wolfurt ÖBB Container Terminal The logistics of logistics

AREA	54,000 m²
PRODUCT	F–System LARGE, F32
QUANTITY	103 floodlights
POLE SYSTEM	Europoles

The ÖBB terminal in Wolfurt comprises 54,000 square metres of space. Every square metre must be perfectly accessible and visible day and night in order to guarantee the smooth flow of goods.

It was for this reason that exceptionally high masts were used to ensure an optimal, capable lighting system.



High-tech lighting for complex deliveries

ewo specially developed a differentiated <u>"left-right"</u> optical systyem for optimal illumination of horizontal and vertical work areas.



Power and efficiency - 30 lx and 45.4 kW

POLES WITH LOWERING SYSTEM



Shadow-free multi-layer lighting

containers and aisles without casting shadows, of course with 0% light pollution." Ernst Wohlgemuth, Founder and CTO LIGHT DISTRIBUTIONS LS34



"The key factor is precision. Our *left-right system illuminates*



ewo Services

ewo remains close to the customer from the initial project idea, through support in project planning, to installation and even afterwards. Because we are not just focused on products, but also on providing all-embracing solutions and a full set of services for sustainable projects.

DESIGN SUPPORT

Our solutions include, for example, meticulous support in lighting design and planning. All over the world, our experienced lighting engineers work to ensure that current standards like ICAO, EASA, MOS and ISNEA are met and that the perfect light is found for each individual area.



INSTALLATION SUPPORT AND COMMISSIONING

Above and beyond light, our technicians support customers by providing them comprehensive instructions and guidance in the installation of lighting poles on site. We support installation of our high-performance floodlights worldwide.

AFTERSALES SERVICES

Our floodlights are easy to upgrade, repair and adjust. On top of all this, we offer efficient, sustainable spare parts management: central components of the luminaire can be easily replaced using a structured modular system. Maintenance work and costs are reduced to a minimum while upholding the same quality standards.

LightLogger – Hardware and Software

This easy-to-operate mobile measuring device increases accuracy and saves time when it comes to the precise measurement of illuminance values - for any and all large areas.



Munich Airport

	AREAS OF APPLICATION	airports, car parks, ports, sports grou
	HANDLING & FUNCTIONALITY	quick assembly for only one person, georeferencing via GPS, robust trans self-aligning measuring sensors, rug
	MEASUREMENT SPECIFICATIONS	potential measurement of single po 1. simultaneous recording of up to 6 2. horizontal measurement at 0 or 2 3. vertical measurement in four direct measurement of illuminance lux (lx)
	SOFTWARE	automatic recording and evaluation measurement modes: 1. free measurement 2. raster measurement 3. measurement based on existing li 4. comparative measurement reports and management of measur export of data in different formats (e.g. GPS coordinates, Excel, CSV,)
_	ILLUMINANCE METER CLASS	class AA of JIS 1609-1:2006 illuminance meters part 1: general m DIN 5032 Part 7 Class B

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unds, terminals

mobile assembly, sport case, ged tablet

ints / wider surface areas: measuring points m ctions on 2 m and other values

in real time. Various

ight calculations

rements

neasuring instruments



For more than 20 years ewo has been making places shine: picturesque footpaths and urban meeting places, streets, cultural buildings and squares, airports and other transport and industrial environments. For us, the cutting edge requires use of the latest technology to create tailor-made solutions.

At our location in South Tyrol we develop and manufacture high-quality products for the distribution, control and limitation of light in public spaces.

A modular LED unit is the basis of ewo's peerless customer-centric, sustainable and energy-saving lighting projects, which operate on any and every scale.

We bring passionate curiosity for individual requirements, such as individualised lighting effects, special demands on form, colour and material of the luminaires, sensitive or extreme environments, special technical specifications. The examination of cultural and artistic questions, the experimental exchange with architecture, art and design have for us a special significance.

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