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**LIGHTING THE FUTURE**





# VALUES

## ▶ EARLY DAYS OF AVIATION INDUSTRY GLOBALLY

## ▶ EASY TO WORK WITH

## ▶ ALWAYS AT THE EDGE OF TECHNOLOGY

## ▶ END-TO-END

## ▶ TAKE ADVANTAGE FROM LED

# OCEM

### **Early Days of Aviation Industry Globally**

OCEM has been Lights and Power Supplier for airports since **Early Days of Aviation Industry Globally**. Its early presence in international market has refined and shaped the company's values and mission in decades to meet requirements of standardization agencies in many countries and demanding operators.

### **Easy to Work With**

This has been the reason why the company is pocket-size, multinational, and an **"Easy to Work With"** partner in the aviation industry, capable to read fast to the always changing environment.

### **Always at the Edge of Technology**

**Always at the Edge of Technology**, international standards, available manufacturing & design processes have brought OCEM what it is today.

### **End-to-End**

The most cutting-edge and comprehensive product line which completes a package of service of **End-to-End** solutions (fixtures, regulator, control & monitoring systems).

### **Take Advantage from LED**

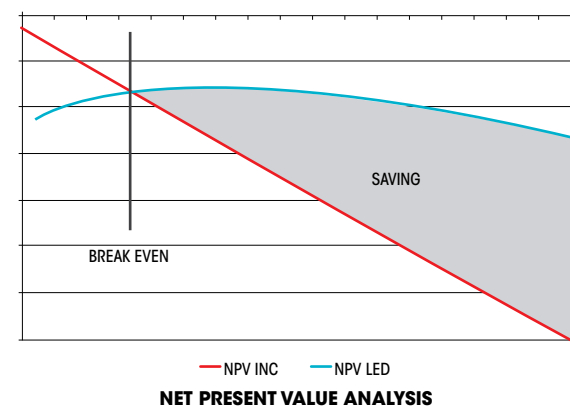
Ocem is paving the way to transition from halogen to LED technology since 2000'. It has helped customers globally to develop business models to smoothly plan, prepare and quantify the transition and **take advantage from LED**.

OCEM is part of **Aretè & Cocchi Technology** industrial holding forming a team of excellence in airfield market together with Augier (France) and Multi-Electric (USA).



# THE ADVANTAGES OF LED TECHNOLOGY

LED systems allow a **dramatic reduction in the operating costs** because of their long life, low maintenance costs and extremely low energy consumption, coupled with an **incomparable brightness and safety**.



OCEM LED lighting offers specific advantages in each area of the airfield:

## APPROACH

LED intensity and their clear and bright colors ensure a better view of the approach area, even in poor weather conditions. Therefore they allow pilots to easily identify the landing runway.

## RUNWAY

Safety is notably increased by the intensity and color clearness of LED lighting. Moreover, their limited protrusion makes them perfect for the runway zone, because it reduces abrasions and noises caused by airplane transit. The maintenance to fix damages and malfunctioning is extremely limited.



## TAXIWAYS

Taxiway lighting, available in different combinations of colors, always guarantees low maintenance costs. An additional Artic-kit with internal heating is available on request, in order to guarantee an optimal view in wintertime.

## MONITORING CONTROL

LED systems are easy to monitor. Lighting functioning can be checked without going on the field, but it can be done directly from the control tower.

In new installations the use of LED lighting involves lower loads for CCRs and low power transformers, which results into **significant operating cost reduction for the entire facility**.

# A FULL RANGE OF COMPLETE SOLUTIONS

OCEM produces all kinds of visual aids as well as electronic systems required for their power source, control and monitoring:

- Full range of in-pavement and elevated lighting for approach, runway, taxiway and guidance signs, equipped with both traditional and LED light sources
- Full range of in-pavement and elevated lights for heliports, equipped with both traditional and LED light sources
- Single- and three-phase constant current regulators
- Circuit selector for series circuits
- The latest technological solutions to control and monitor circuits and single lights
- Advanced systems to control and protect runways to manage air traffic safety.



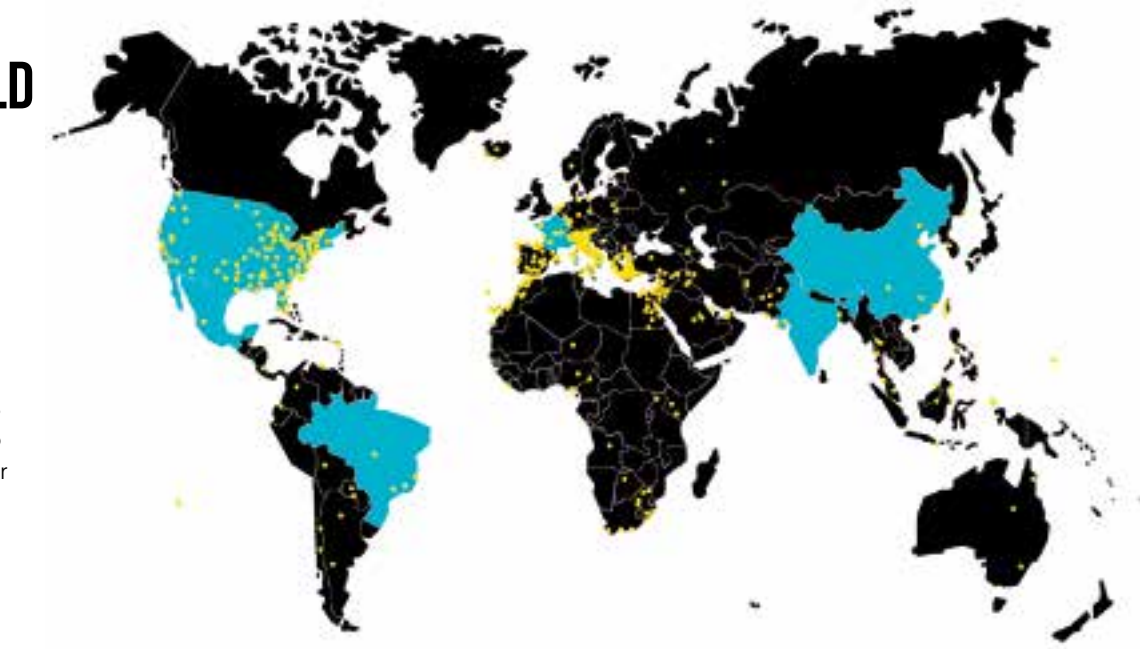
# WORLDWIDE CERTIFICATIONS

OCEM products always comply with the ICAO and IEC guidelines and most of them have been approved with official certifications released by FAA (USA), PPT (AENA), STAC (France) and MAK (Russia).



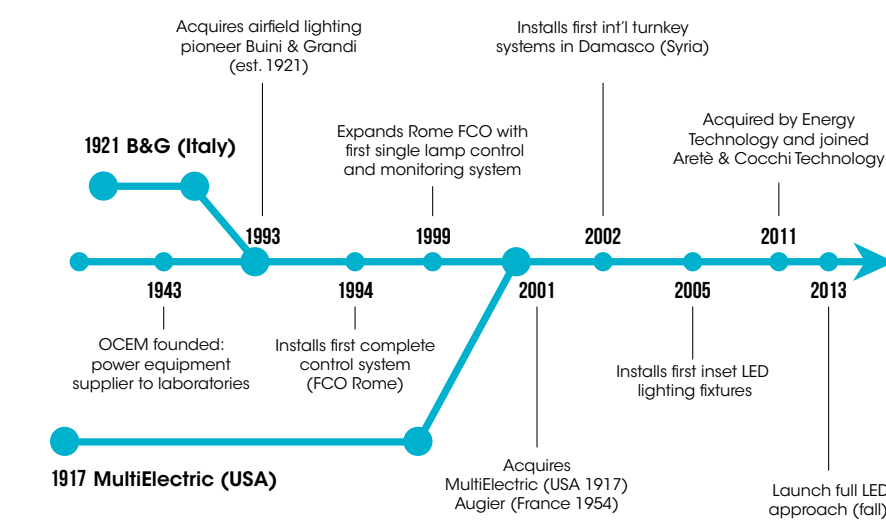
## OCEM IN THE WORLD

- |                    |                      |
|--------------------|----------------------|
| Afghanistan        | Jordan               |
| Algeria            | Kenya                |
| Antille            | Korea                |
| Australia          | Lebanon              |
| Bangladesh         | Malaysia             |
| Belgium            | Maldives             |
| Bogota'            | Malta                |
| Bolivia            | Mauritius            |
| Bosnia-herzegovina | Morocco              |
| Botswana           | Myanmar              |
| Brazil             | Nepal                |
| Bulgaria           | Niger                |
| Cambodia           | Norway               |
| Cameroon           | Pakistan             |
| Caribbean          | Palestine            |
| Chile              | Paraguay             |
| China              | Polland              |
| Ciprus             | Portugal             |
| Colombia           | Romania              |
| Croatia            | Russia               |
| Djibuti            | Saudi arabia         |
| Ecuador            | Sierra leone         |
| Egypt              | Singapore            |
| France             | Slovenia             |
| Georgia            | South africa         |
| Germany            | Spain                |
| Greece             | Syria                |
| Guinea             | Taiwan               |
| Guinea-bissau      | Tanzania             |
| Holland            | Tchad                |
| Iceland            | Thailand             |
| Indonesia          | Tunisia              |
| Iran               | Turkey               |
| Iraq               | Ukraine              |
| Ireland            | United arab emirates |
| Israel             | United states        |
| Italy              | Vietnam              |

















● OCEM sales and technical center ● OCEM installations

# MILESTONES





































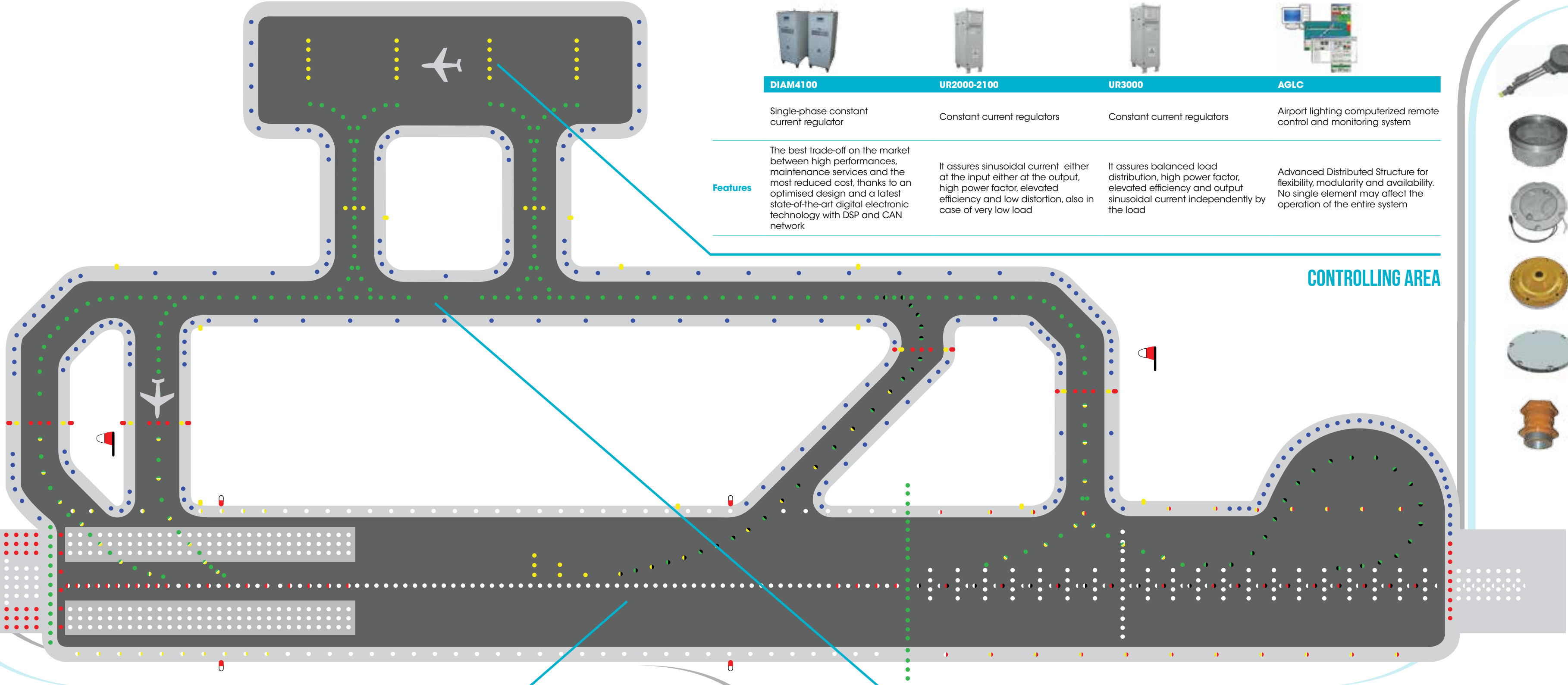
					
LERA	LIRA	FEAC	FIAC	PAPI	
Led elevated approach, threshold, threshold wing bar and runway end light	Led inset approach light	Approach elevated unidirectional flashing light	Approach inset unidirectional lashing light	Precision approach path indicator	
<b>Variants</b>					
		Parallel power supply: 230 VAC ± 10%	Parallel power supply: 230 VAC ± 10%	2 x 200 watt	
		Series power supply: 2.8 A - 6.6 A * , 50-60 Hz	Series power supply: 2.8 A - 6.6 A * , 50-60 Hz	3 x 200 watt	
Type	Elevated	Inset	Elevated	Inset	Elevated
Light	LED / Halogen	LED / Halogen	Halogen	Halogen	Halogen
Colour	  	 			 
FAA	L-862S AC150/5345-46		L-849A-E AC150/5345-51		FAA-E-2325 and FAA-E-2689
ICAO	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I
IEC	TS 61827	TS 61827			

## APPROACH



## RUNWAY

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LIRT	LIRH	LERE	REIL	IREIL	LIRE	LIRN	LIRC	LIRL	LIRD	LIRZ
Led inset threshold light	Led inset threshold/end light	Led elevated runway edge And threshold/end light	Threshold identification elevated unidirectional flashing light	Threshold identification inset unidirectional flashing light	Led inset runway edge light	Led inset runway end light	Led inset runway centreline and rapid exit taxiway indicator light (R.E.T.I.L.)	Led inset runway centreline and rapid exit taxiway indicator light (R.E.T.I.L.)	Led inset touchdown zone light	Led inset touchdown zone light
Variants	Unidirectional	Uni-/Bidirectional			Uni-/Bidirectional	Unidirectional	Uni-/Bidirectional	Uni-/Bidirectional	Unidirectional	Unidirectional
Type	Inset	Inset	Elevated	Elevated	Inset	Inset	Inset	Inset	Inset	Inset
Light	LED / Halogen	LED / Halogen	LED / Halogen	Halogen	Halogen	LED / Halogen	LED / Halogen	LED / Halogen	LED / Halogen	LED / Halogen
Colour		 	   			  		  	  	 
FAA	L-850E(L) AC150/5345-46 and EB No.67	L-850D(L) AC150/5345-46 and EB No.67	L-862-E(L) AC150/5345-46 and EB No.67	L-849A-E AC150/5345-51		L-850C(L) AC150/5345-46 and EB No.67		L-850A-T(L) AC150/5345-46 and EB No.67	L-850B(L) AC150/5345-46 and EB No.67	L-850B(L) AC150/5345-46 and EB No.67
ICAO	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I
IEC	TS 61827	TS 61827	TS 61827			TS 61827	TS 61827	TS 61827	TS 61827	TS 61827



### Features

The best trade-off on the market between high performances, maintenance services and the most reduced cost, thanks to an optimised design and a latest state-of-the-art digital electronic technology with DSP and CAN network

It assures sinusoidal current either at the input either at the output, high power factor, elevated efficiency and low distortion, also in case of very low load

It assures balanced load distribution, high power factor, elevated efficiency and output sinusoidal current independently by the load

Advanced Distributed Structure for flexibility, modularity and availability. No single element may affect the operation of the entire system

## CONTROLLING AREA



## SPECIAL VARIANTS



















### PALS

Portable airfield lighting systems

The system is provided for continuous operation, fed through constant current regulators and series circuits, and could be remote controlled by means of a wireless computerized system.

ICAO Annex 14 - Volume I

## TAXIWAY

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LITE	LETE	LITC	LITS	LRGL	LITG	LIGS	MV800
Led inset taxiway edge light	Led elevated taxiway edge light	Led inset taxiway centreline, stop bar and intermediate holding position light	Led inset stop bar light	Led elevated runway guard light	Led inset runway guard light	Led luminous guidance sign	Wind cone
<b>Variants</b>		Omnidirectional 8" or 12" dia	Uni-/Bidirectional 8" or 12" dia	Unidirectional	Unidirectional		
Type	Inset	Elevated	Inset	Inset	Elevated	Inset	Elevated
Light	LED / Halogen	LED / Halogen	LED / Halogen	LED / Halogen	LED / Halogen	LED / Halogen	LED / Halogen
Colour			  				  
FAA	L-852T(L) AC150/5345-46 and EB No.67	L-861T(L) AC150/5345-46 and EB No.67	L-852A-B-C-D-J-K(L) AC150/5345-46 and EB No.67	L-852S(L) AC150/5345-46 and EB No.67		L-852G(L) AC150/5345-46 and EB No.67	AC150/5345-27
ICAO	Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I		Annex 14 - Volume I	Annex 14 - Volume I	Annex 14 - Volume I
IEC	TS 61827	TS 61827	TS 61827		TS 61827	TS 61827	