

ADVANTAGES OF SOLAR LIGHTING vs. CONVENTIONAL AGL

<https://solutions4ga.com/applications/advantages-of-solar-lighting/>

QUALITY WITHOUT COMPROMISE ENDORSED BY ICAO AND THE OTHERS

Combination of quality and affordable price is what majority of our customers are communicating when looking for good product. Price of different products is relatively easy to compare. However interpretation of the word “**quality**” requires more time. We like to ask our customers about definition of “quality” and which criteria do they use to understand whether or not they are offered with quality product. We found out that concept of quality is perceptual and subjective attribute that can be understood differently by different people. When choosing airfield lighting airports operators would look at how this product compares to competitors in the market place. Maintenance personnel would measure quality in the degree that product is reliable and low-maintenance. For pilot the only thing that matters is high visibility range and correct chromaticity (color) of lights.

S4GA focuses on every one of those critical elements to make sure that each lighting unit is ICAO-compliant, fault-free and can perform its duty for at least 15 years.

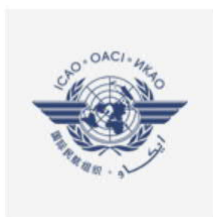
HOW DO WE ACHIEVE THAT?

S4GA Solar AGL is built of highly reliable and long-lasting components. Each and every lighting unit has to go through rigorous testing that is performed manually using the precise testing equipment. Optical characteristics of the unit are confirmed by a third-party accredited laboratory in order to make sure compliance with ICAO requirements.

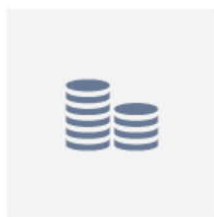
FINANCIAL SAVINGS

Estimated (conventional lighting system valuation was prepared by independent engineering company) cost of airfield ground lighting system for non-instrument runway of 2 000 meters with parallel taxiway calculated in USD.

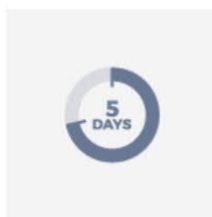
TOTAL COST (IN USD)	CONVENTIONAL CABLE LIGHTING	S4GA SOLAR LIGHTING
	526 500	223 500
<i>Engeneering design</i>	51 000	0
<i>Lighting fittings</i>	95 000	198 000
<i>Cables and Connectors</i>	58 000	0
<i>Constant current regulators</i>	39 000	0
<i>Series Circuit Isolation Transformers</i>	12 500	0
<i>Control & Monitoring interface</i>	19 000	12 000
<i>Installation (materials and labor cost)</i>	240 000	10 000
<i>Project commissioning</i>	12 000	3 500



ICAO Compliance
verified by third-party
testing



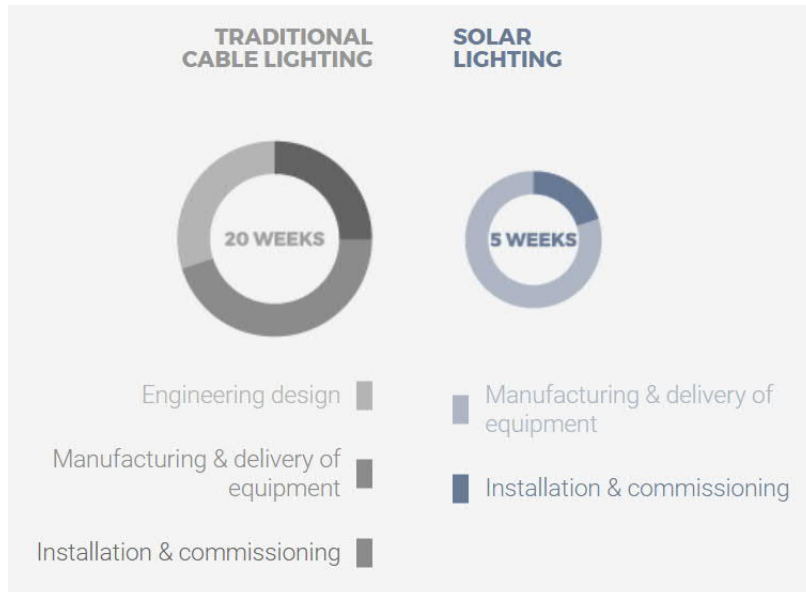
Affordable alternative
for conventional
wired lighting



Installation takes only
5 days

TIME SAVINGS / ONLY 5 WEEKS FROM ORDER TO RUNNING SYSTEM

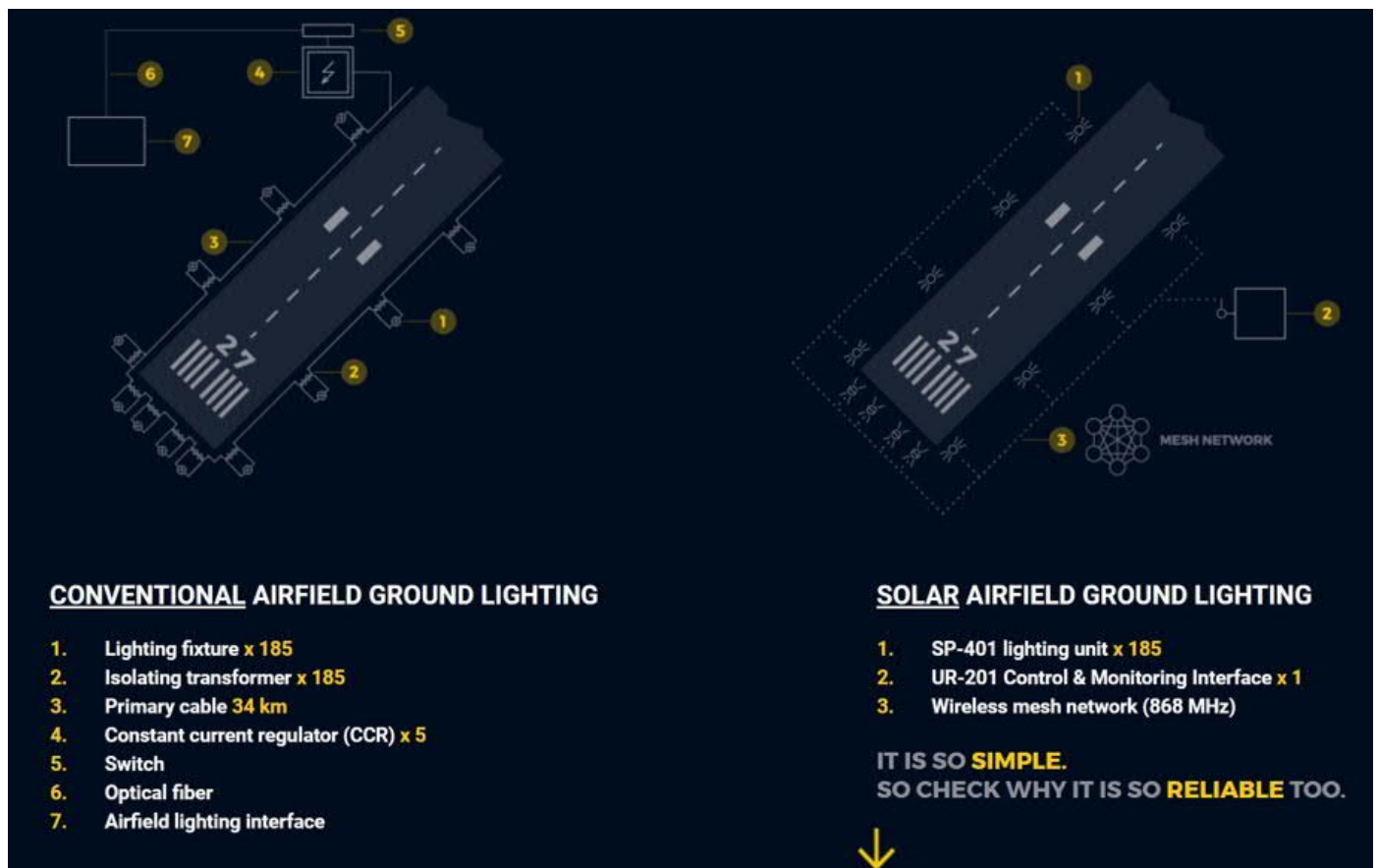
Solar lighting can be delivered and commissioned 4x times faster than conventional cable lighting.



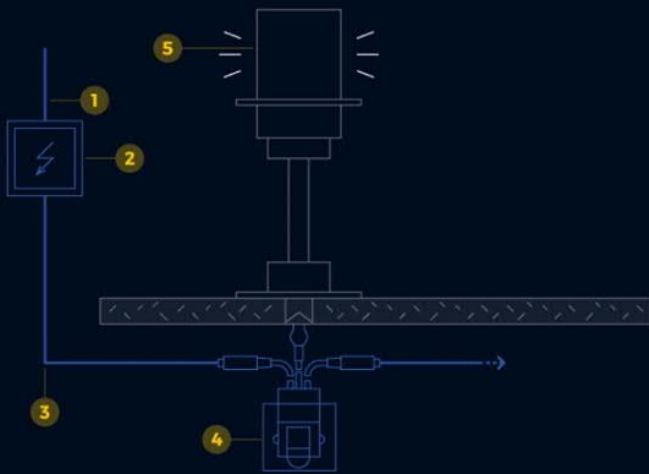
RELIABLE ALTERNATIVE FOR CONVENTIONAL AIRFIELD LIGHTING

Solar Airfield Ground Lighting has multiple benefits in terms of affordability, maintenance and reliability. S-AGL is 3-5x time cheaper than conventional (wired/mains) lighting. Also many features of S-AGL makes it significantly **more reliable** and maintenance-friendly **than conventional AGL**.

SYSTEM COMPARISON – FOR 2000 M RUNWAY AND 2000 M PARALLEL TAXIWAY INCLUDES:

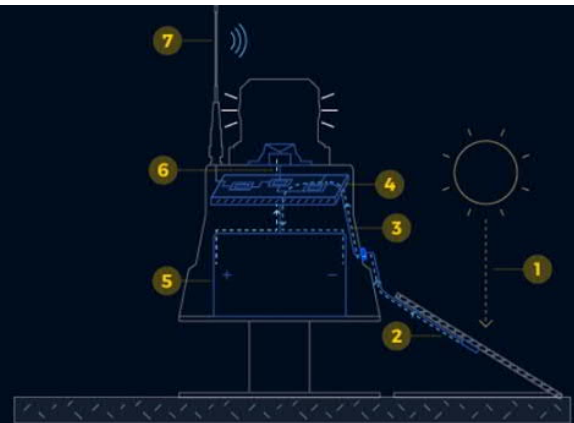


HOW IS SOLAR LIGHTING DIFFERENT FROM CONVENTIONAL



CONVENTIONAL AIRFIELD GROUND LIGHTING

1. Lighting circuit has to be energized with external source of power
2. Constant Current Regulator is used to regulate electrical current in the primary circuit
3. Controlled current flows hundreds of meters towards lighting fixtures
4. Before getting to lighting fixture electricity is again adopted by Isolating Transformer
5. Lighting fixture receives power from the electrical circuit



SOLAR AIRFIELD GROUND LIGHTING

1. Solar energy generated by the sun
2. Solar panel converts solar energy into electrical energy
3. Electrical energy gets into the lighting unit via charging port
4. In-built micro-controller manages electrical energy and charges battery when needed
5. Battery stores electrical energy
6. If light is activated micro-controller uses electrical energy stored in the battery to power LED
7. Lighting unit is controlled and monitored wirelessly