

2020 / Case Study

The World's Longest Zip-line Marked with Obstruction Lights

Jebel Jais, Ras al Khaimah, United Arab Emirates



*"We Believe Technology
Improves Navigation."*

“Avlite’s reliable obstruction lighting solution have enhanced the aviation safety of the world’s longest zip-line in the Jebel Jais mountains, UAE..”

Arun Karol

Sales Engineer, North West Marine and Aviation



Product Overview

Application: Obstruction

Date: 2020

Products:

- AV-OL-CMI Combined Medium Intensity Obstruction light
- AV-15 red and white barricade lights

The World’s Longest Zip-line Marked with Obstruction Lights

Industry

Adventure

Location

Ras al Khaimah, UAE

Founded In

2018

Background

Toroverde Adventure Park Zip-line holds an official Guinness World Record as the longest zip line. It opened on the Jebel Jais mountain in February 2018, and it is 2,832 m (9,291 ft) long. Action seekers will travel at speeds of up to 150 km/h (93 mph).

Jebel Jais is a mountain of the North-Western Hajar range in Ras Al Khaimah, United Arab Emirates and also in the Musandam Governorate of Oman. The UAE summit has an elevation of 1,892 m (6,207 ft) above sea level.

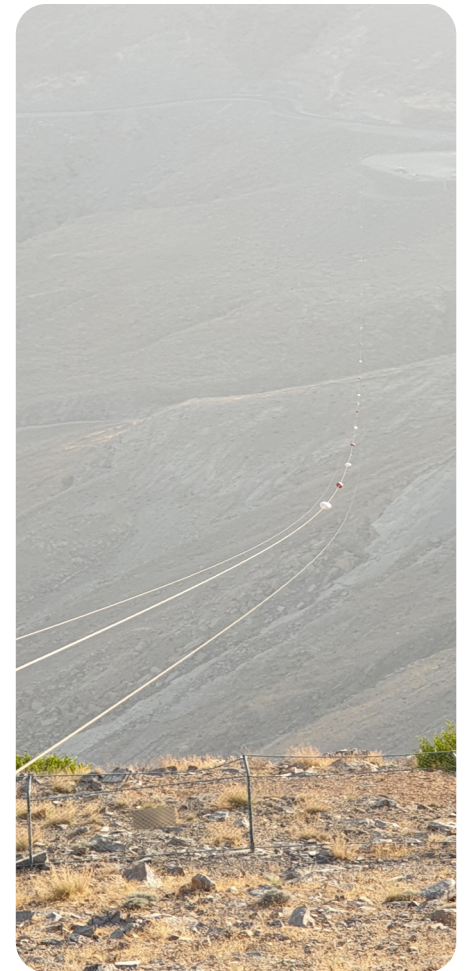
The zip-line runs two cables alongside each other so riders have the choice to experience the journey with another person. They are attached to a pulley and harness and lie face down.

The zip-line has taken over a year to complete, built by Toroverde and Ras Al Khaimah Development Authority. There are plans in place to an adventure hub, including building a hotel and cable car service.

The Challenge

The project scope called for the following factors:

- A solar solution that would minimise expensive and prohibitive electrical works.
- A combined medium intensity light at the highest point of the zip-line for day and night time compliance.
- Markers for the cable



The system for the Toroverde Adventure Park Zip-line is required to work day and night, so a solar system of the appropriate size would be necessary to power the obstruction light. The system had to be easy to install due to the unique nature of the obstruction being lit. The obstruction light would need to be run through a customised solution controller to manage the solar power harnessed.

Solution

Avlite, in conjunction with distributors and installers North West Marine and Aviation, provided Toroverde Adventure Park zip-line with a customised solar solution. It consisted of one AV-OL-CMI to meet regulatory day and night time markings, and 40 AV-15 solar barricade lights evenly split between red and white to mark the zip-line.

One AV-OL-CMI was used to light the highest point of the zip-line. This Avlite light fixture is a combined medium intensity LED obstruction light. It is designed to comply with FAA L-864, L-865, L-885 & L-866 as well as ICAO MIOL Type A, Type B and Type C requirements for day/night marking of obstacles.

The LED obstruction light offers an ultra-bright, energy-efficient and cost-effective lighting solution. It uses multiple high-intensity LEDs for efficient operation. The corrosion-resistant acrylic lens is specifically designed for use with LEDs to maximise light intensity and uniformity. The light fixture incorporates internal diagnostic checking and an alarm contact for remote monitoring. The alarm relay is energised in regular operation and is released if there is an LED or power fault.

Avlite's obstruction range has utilised the latest advancements in GPS technology to develop an internal synchronisation system that is incorporated into our lights. Using overhead satellites, multiple obstruction lights set to the same flash pattern will flash in unison.

The outer line was marked using red and white AV-15 barricade lights, as the regional requirements stated the lines needed to be lit, but not to any specification.



Outcome

Toroverde Adventure Park zip-line has been serving local and international thrill-seekers for two years and is a major attraction for the United Arab Emirates.

The permanent solar obstruction solution enables aviators to remain safe around the tourist hotspot.

Avlite's obstruction lights have a small form factor and low power consumption. The solution includes the AV-OL-CMI which has an integrated light sensor for day/night operation with flash control and diagnostics, including remote monitoring. It is the optimum solution to this unique requirement set.

Contact Us!

Avlite's obstruction solutions are easy-to-install and scalable. We have a solution for every budget.



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