

marlec 

Off Grid CCTV for Komcept

Case Study





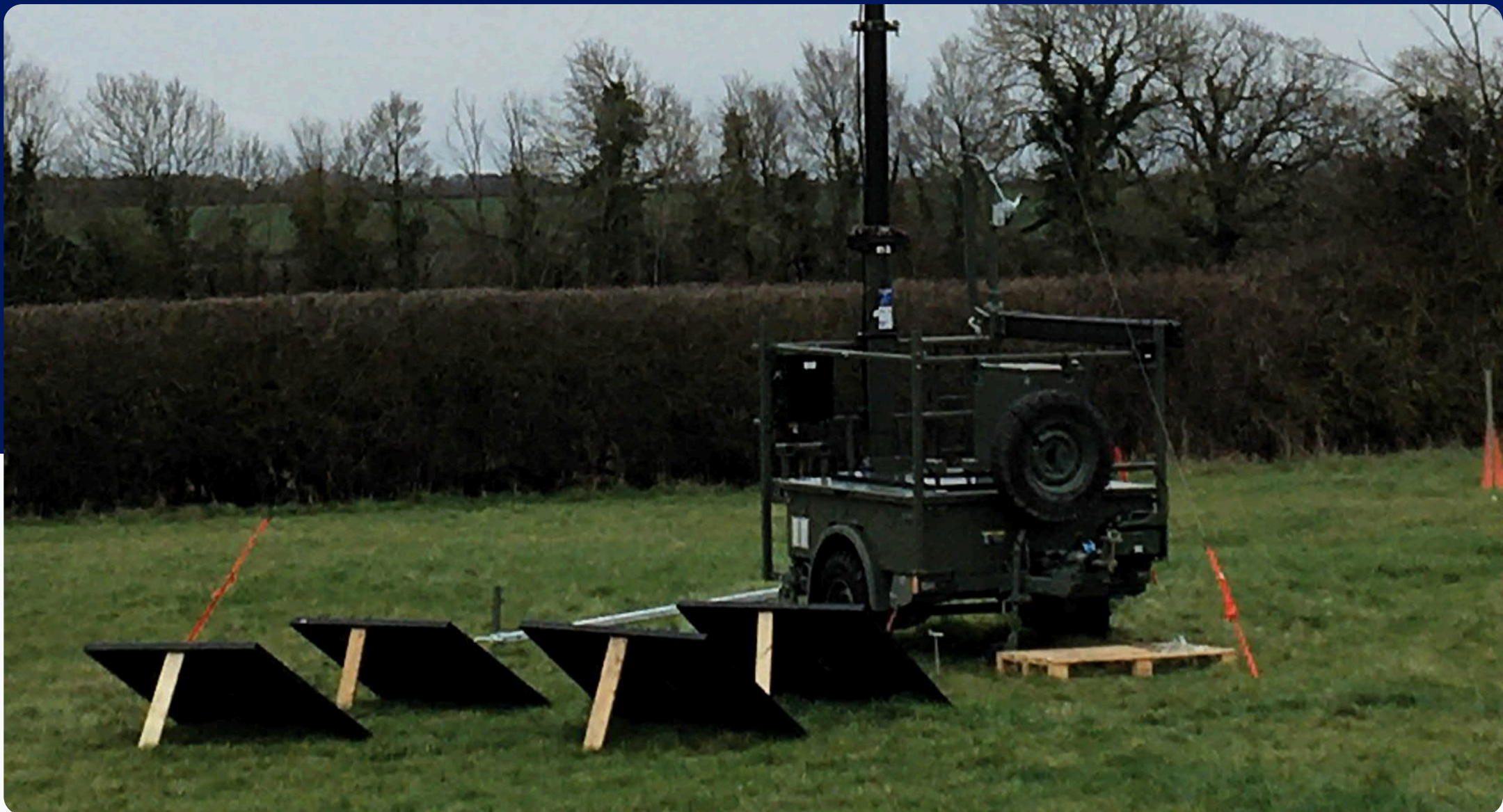
Marlec Engineering is the UK's longest-established renewable energy company, manufacturing wind and solar solutions for off-grid power.

Since 1978, our systems have provided reliable, sustainable energy for Railways, Highways, Utilities, Telecoms, and Marine & Leisure industries. Our solar signage solutions are designed for durability, efficiency, and ease of installation.

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Komcept is a UK-based security and surveillance specialist established in 2001 and headquartered in Northampton. The company designs and delivers advanced surveillance and sensor systems for government clients worldwide, supporting border monitoring and civilian protection in high-risk regions.

Over the past several years, Komcept has worked closely with Marlec's Green Systems team to develop reliable off-grid power solutions for mobile CCTV platforms deployed in remote locations overseas.

Requirements

- Fully off-grid power for surveillance equipment
- Solar panels adaptable to a bespoke trailer design
- Sufficient generation to meet high power demands
- Robust construction for transport and repeated handling
- Simple connection and disconnection during deployment

The Challenge

One of the primary challenges was defining the power requirements before the final trailer and CCTV system designs had been completed. This required close collaboration and ongoing technical dialogue throughout the development phase.

In parallel, the solar solution had to balance portability, durability, and performance, while integrating seamlessly into a compact trailer layout. The panels needed to withstand harsh handling and varied environmental conditions without compromising output or reliability.

The Solution

Marlec's Green Systems team worked alongside Komcept's R&D engineers to design a bespoke off-grid solar solution tailored to the trailer platform. The final system incorporated:

- **300W Spectra PERC Shingle solar panels** chosen for their compact size, strength, and efficiency
- One panel mounted on the trailer roof, positioned beneath the stowed mast
- Four additional panels stowed vertically and deployed to ground level during operation
- Rigid aluminium frames providing durability during transport and deployment
- PERC Shingle cell technology, offering shade resistance and strong low-light performance

"We wanted a partner with technical design expertise, not just a component supplier. Marlec provided that support."

Komcept



The Results

- Twenty-one off-grid surveillance trailers successfully equipped to date
- Reliable solar power supporting continuous CCTV and sensor operation
- Robust, transport-ready systems suited to harsh environments
- A scalable solution adaptable to future trailer designs and deployments

Why Solar

Solar power was selected based on the operational environment. The systems are deployed close to the equator, where solar irradiance is significantly higher than in the UK. This allows panels to generate strong output even when mounted flat on the trailer surface.

While fixed flat during transport, the panels can be angled during deployment if required, offering flexibility without adding mechanical complexity.



Marlec Services

Marlec's team specialises in off-grid renewable energy solutions across multiple industries, including transport, utilities, and signage.

With thousands of systems in operation worldwide, we provide expert design, installation, and ongoing support.



Discover how Marlec's renewable solutions can enhance your sustainability efforts.

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