

# Case Study

## VTOL Technologies

### Introduction

The electricity industry is not only legally obliged to inspect power-lines and towers regularly, it is also an essential operational requirement as part of their overall asset management and maintenance programme.

Currently, the most efficient and effective method for these inspections is a helicopter survey, flying the length of the line to gather detailed photographic evidence. It is estimated that this process costs between £500 and £1,200 per hour, depending upon the type of helicopter used and the operating location.

### The project

VTOL Technologies have developed a unique, high-performance flying wing Vertical Take Off and Landing Unmanned Aerial Vehicle (VTOL-UAV) for inspecting power lines, which offers significant cost savings, improved performance and greater safety.

The 3.5kg VTOL-UAV fits into the boot of a car and can be launched from almost anywhere, flying pre-programmed routes for up to 2½ hours at a time, combining both intricate hovering and pin point flying accuracy, with high speed return after inspection. It is capable of flying within meters of power lines and towers, providing accurate, close up surveillance capabilities, yet with no exposed rotors it remains completely safe.

The biggest advantage of the VTOL-UAV is cost. At around £10 per hour to fly, it is substantially cheaper to operate than a helicopter. This in turn brings further cost savings, since, as line inspection becomes easier and cheaper, lines can be inspected more regularly. This means faults and problems are spotted much earlier and can be fixed before they become more extensive and more costly to repair.

### How the Energy Innovation Centre Helped

VTOL Technologies Ltd came to the Energy Innovation Centre for help developing their proposal. They had already undertaken detailed studies on the build specification (with Southampton University, funded by the UK MoD), but required further development to show its viability through power-line inspection demonstrations.

With EA Technology's in depth industry experience and unrivalled current contacts across the sector, the team at the Energy Innovation Centre were able to help VTOL Technologies to write and present their proposal in a way that was relevant and attractive to both industry investors and end user DNOs.

"The Energy Innovation Centre were absolutely brilliant!" comments Ashley Bryant, VTOL Technologies managing director. "The commitment they have shown is second to none. They have been very supportive, helping us to put our proposal into context, and remarkably responsive, helping us write our proposal in just a week."

"As a small business, you simply do not have the industry knowledge or the contacts to take your project forward. The Energy Innovation Centre have provided a vital source of experience and expertise to help us bridge the gap to this new and exciting market for our technology".

VTOL Technologies have benefited hugely from the experience of being a member of the Energy Innovation Centre and plan to submit a new innovation in 2011.

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