



THE LONGEST JOURNEY

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Case Study



Staying connected during a record-breaking solo and unassisted mission across Antarctica.

The Challenge

Polar adventurer Geoff Wilson required a comprehensive, satellite communications system that could survive the harshest conditions imaginable so he could remain connected with his support team and family, receive weather updates, and post blogs, photos and video during his 5,000 km, kite-powered, solo journey across Antarctica.

The Solution

Pivotel came onboard as expedition sponsor and provided Geoff with two Iridium Extreme Satellite phones and an Iridium Certus MissionLINK data terminal which ensured he was connected at all times, providing a critical line of communication as he took on one of the most perilous journeys in the history of Polar exploration.

“

The more remote we got, the better it worked. In Antarctica it had incredible signal, it worked really well, phenomenally well.

”

- Geoff Wilson
Adventurer

The Communications Challenge

Geoff Wilson is a renowned adventurer who has recently completed the most demanding challenge of his life – the longest solo, unsupported polar expedition in human history. Geoff travelled using kites, harnessing the wind to propel him and two sleds of supplies and equipment across Antarctica, from the Russian Novolaskaya Station to the South Pole and back again, via the Pole of Inaccessibility.

Given his isolation and extreme environment, reliable communications were critical for the success and safety of the expedition. Geoff needed to be able to check into the Russian Antarctic base each day to report his position and condition, or sound an alarm if he needed help.

He needed access to precise weather data each day to determine his route. He also needed the ability to upload blogs, photos and videos to his website so people could follow his journey, to raise money for breast cancer research. And, most importantly, he needed to be able to stay in touch with his wife Sarah and their three children for emotional support and to keep them informed of his progress.

“It needed to be as light as possible but capable of transmitting video. We’d never done a polar expedition and I’d never heard of a polar expedition that had capacity for video so that was the challenge we put to them,” says Geoff.

In temperatures of -40 degrees Celsius and wind chill factor of -70, and with the kite-powered sleds reaching speeds up to 50 km/h over rugged and constantly changing terrain, the equipment had to be able to withstand extraordinary stresses.

The Communications Solution

Pivotal came up with a communications system that met all Geoff’s needs while being light enough to be transported by sled and durable enough to withstand everything the extreme Antarctic environment could throw at it.

“Their tech team ended up coming up with the Certus unit powered by a lithium 12-volt battery that was serviced by solar panels. Because there’s 24-hour daylight there, solar was the best way to go,” says Geoff.

A three-metre cable connected to a satellite antenna he set up outside his tent each night provided reliable internet access, and two Iridium Extreme handsets gave him voice call capability at all times.

The entire setup weighed just 15 kg. “Kiting you can be going 50 km/h and the gear gets absolutely pummelled, so that’s what they came up with and the solution was bloody awesome,” he says.

From the highest point of East Antarctica, Dome Argus, possibly the coldest and most isolated place on earth, Geoff was able to video chat with his family from his tent.

“No human prior to that point had ever summited Dome Argus. At that point the nearest human would be in the Russian space

station when it’s overhead. That’s how isolated it is, it’s ridiculous. The nearest city Capetown is over 5,500 Km away so you’re arguably the most isolated human on planet earth,” says Geoff.

“To be sitting in a tent there and getting video feeds was just surreal, it meant that the family could share in the high points but it also meant they were really connected to the low points which was tough for them a well.”

The Outcome

The successful completion of Geoff’s mission, 5,306 km over 58 days, set a whole raft of new records for polar exploration – the longest solo polar journey unsupported, the first person to summit Dome Argus, the longest mileage covered in a week (over 1,324 km), and the highest average daily mileage for any expedition of its type (91.5 km/day). None of this would have been possible without reliable communications.

“There were probably three separate times where I thought I was beyond what my body could take. I wasn’t making any headway and really in despair. Being able to connect with Sarah, who obviously wasn’t fatigued, was making better decisions, I was able to get my boots on and keep moving, so the communication was absolutely crucial,” says Geoff.

More than anything, Geoff hopes his expedition offers lessons in resilience that can help others.

“I think to put all of these hours spent in a tent solo to good use, you really need to try and explore, how do we pass on these lessons in resilience, and Pivotal’s part of that journey, that’s the exciting part,” he says.

“They’ve been a great supporter of this journey. In terms of the hardware and tech know-how, Pivotal provide that link that we need to get the story out.”

The Hardware

- Thales MissionLINK™**
on the Iridium Certus® Network
- Military-grade solution designed to meet unique challenges through a simple and robust design
 - IP data sessions up to 704kbps (down)/352kbps (up)



- Iridium Extreme (9575)**
on the Iridium Network
- Voice, SMS and more



About Dr Geoff Wilson

With three current world records under his belt, Dr Geoff Wilson is one of the world’s most accomplished desert, polar and kite-traction adventurers. As well as an adventurer, Geoff is

a veterinary surgeon, business owner, entrepreneur, public speaker and family man, he is the living endorsement of the motto ‘all in or not at all’.