

Going Green is Good for the Business of Teleports

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Globecomm Teleport in Hauppauge, New York

Globecomm is a teleport operator and systems integrator — with a global network of teleports, satellite capacity and fiber networks — which serves government, mobile, media, maritime and enterprise markets. For the past several years, we have been investing substantially to reduce energy consumption and implement the best efficiency practices.

Why? How does this publicly-traded company justify committing capital to a "green" agenda?

To begin with, we are seeing a meaningful return on that investment. Investments in energy reduction can rapidly reduce costs 20 to 40% and payback can

take only one to two years. There can also be beneficial effects that surprise you. A study by the US carrier Verizon suggests that reduction in the energy needed to power a piece of telecom equipment has a cascading effect, reducing the energy spent on distribution, DC power systems and conversions as well as cooling, and sometimes even reducing the need for additional equipment.

Business trends also favor those who move sooner, rather than later, toward energy efficiency. Regulation of carbon emissions varies widely but the trend is clear. All forms of pollution, from greenhouse gases to e-waste, face tightening regulation and rising costs for business. We are also hearing from our customers. As they come under pressure to reduce their carbon footprints, the pressure is being passed along to their vendors. Leading customers for teleport services, from Sky to NATO, are already adding environmental sustainability factors to their decision-making when awarding new contracts.

And finally, there is risk management to consider. We have all seen intense volatility in the pricing of fossil fuels, and can be assured of more to come. The more teleport operators reduce the energy component of their costs and diversify energy sources, the more stable their businesses will become.

Multi-Use Facility

The energy requirements of Globecomm's main

facility, located on Long Island near New York City on the East Coast of the US, are unusual. It is simultaneously a corporate office, a manufacturing facility, a teleport and a global data center and Network Operations Center (NOC). Eighty-seven percent of power consumption is for the teleport, NOC and manufacturing facility, which are served by a dedicated HVAC control system. The mission-critical HVAC includes an ambient cooling option: when outside temperatures are 45 degrees F. or less, the system pumps in outside air rather than running a compressor.

With virtually all content storage, management and transmission being digital, teleports are operating the servers, heating, cooling and backup power systems of a data center, plus the high-powered transmission systems needed to connect to satellites in geosynchronous orbit. The travelling wave tube amplifiers (TWTAs) used for satellite communications are a good example. They use a lot of energy. Globecomm is replacing them with solid-state power amplifiers wherever possible. But TWTAs can also contribute to energy efficiency. Multiple-stage depressed collector (MSDC) TWTAs are up to 50% more efficient than conventional ones. We also locate our TWTAs outdoors wherever possible, which reduces cooling requirements in our temperate climate and moves energy closer to the antennas.

Smart Metering

We know so much about our power needs thanks to a smart-meter power monitoring system provided

by our local utility. The installation of such monitoring systems is a prerequisite for making sensible decisions about power use, and the utility subsidized the cost of installing the system. It enables better management and balancing of loads. That has allowed us to operate our interruptible power supply system at 92% efficiency, compared with an average of 80% or less across the industry.

After tackling the big generators of demand, Globecomm has focused on the details. We installed energy-efficient lighting and motion-detectors to shut off lights in unoccupied areas, which together cut the energy cost of lighting by 35%. The installation of double-pane glass windows and a reflective silver roof further reduced cooling and heating requirements. Today, even the purchase of new office equipment stresses energy-efficiency ratings.

Our next project is in the data center, where we will install Sigma T management systems. They will provide dynamic load-balancing among racks to reduce heat build-up and overall power consumption. We are also partnering with a company called Power Management Concepts to develop energy independence concepts for our company, from solar and wind to fuel cells and geothermal. The more of our power needs we can meet from renewable sources, the better it will be for our business.<

Paul Scardino has been involved in the satellite communications and telecommunications network field since 1988 and has been a key to Globecomm Systems' success since February 1997. He is responsible for GSI's Corporate Marketing and Sales Organization. In Mr. Scardino's previous position at GSI, he was Senior Director responsible for all of Globecomm Systems' projects and accounts within Europe, the Middle East and Africa as well as customer specific worldwide accounts.

Mr. Scardino holds an MBA in Management (with Distinction) from Hofstra University in New York, and a BSEE from the Polytechnic University (Polytechnic Institute of Technology) in New York (now Polytechnic Institute of NYU). Mr. Scardino is also a Project Management Institute (PMI) certified Project Management Professional (PMP).