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Got Satellite?

At this writing, firefighters continue work to contain the last of the recent bout of California wildfires. While the property losses from this one incident are indeed staggering, the loss of life has been mercifully small. When we consider why this is the case, it's also a good time to consider the role satellite technology plays in preparing, responding and recovering from natural and man made disasters – and helping to minimize these losses. And, given Near Earth's position in the capital markets, we also consider the ramifications this technology can have for investors.

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Even before disaster strikes, in many cases satellites help us by predicting the onset of the disaster itself. Consider that before floods, hurricanes or Santa Ana wind storms happen, meteorological satellites help us forecast the disaster itself, providing critical time to prepare and, when needed, evacuate. While today's techniques have already reduced loss of life from weather related disasters, new satellites like the NPOES series now in development promise to improve the quality of these forecasts further. Companies like ITT, Ball, Lockheed Martin and others help make this happen. New techniques like GPS occultation (GPS occultation combines purpose built meteorological satellites with the Global Positioning Satellites already in service to measure atmospheric properties) will soon magnify to an even greater extent our ability to measure and predict our global climate. This new technology was sponsored and tested by NASA and the Jet Propulsion Lab and is now being explored by NOAA and commercialized by GeoOptics and Broad Reach.

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After the onset of a disaster, satellites swing into action in a variety of ways. One of the main consequences of many disasters is failure of the terrestrial communications infrastructure due to destruction, damage or loss of power. For example, flooding and wind damage from hurricane Katrina not only destroyed broadcast, microwave and cell towers, subsequent failure of the power grid silenced much of the equipment that did survive the storm. Likewise, when the tsunamis ravaged the Indian Ocean, many of the locations devastated by the waves had little communications infrastructure to begin with. Thus, when first responders arrive, in many instances there are no local communications capabilities. But thanks to portable satellite terminals from providers like Globalstar, Inmarsat, MSV, Thuraya and Iridium (soon to be joined by ICO, Terrestar and others) they can bring their communications with them.

Improved mapping and navigation from imaging satellites and GPS satellites are used for fighting fires, tracking assets and planning responses. Companies like GeoEye, Digital Globe, ORBCOMM, ESRI, Garmin and Trimble lead here.



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Within hours of a disaster, thanks to the rapid deployment capability and independence from terrestrial infrastructure that satellite communications provide, broadband communications can be in place. Combined with deployable WiFi mesh networks, VOIP and other technologies, satellites can provide the full communications capabilities that speed and optimize recovery efforts. Companies like Freedom For Wireless, Agiosat, Spacenet, Artel, DataPath, Americom Government Services and Globecom fill this need.

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Finally, through monitoring land use, resources and the environment itself, satellites can play an important role in planning for the next disaster.

Most of the applications above are in an early stage of adoption, and the industry landscapes have yet to evolve. However, given the increasing success satellite equipment and services have brought to disaster planning, management and response, we expect this area to enjoy growth well above the industry average. In turn, we expect the capital markets to allocate capital to finance this growth, and that this will present opportunities for those who provide the capital.

So the next time your government is facing fires, floods, storms, earthquakes, terrorists or tidal waves, make sure the answer to “Got Satellites?” is YES.

By John Stone
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