Humanitarian relief efforts get extra help from satellite technology and software innovation

NGOs in recent years have recognized how the powerful combination of dedicated software technology and reliable satellite communications can help safeguard workers and optimize resources. But the pandemic has brought the value of this advanced tech into even sharper focus.

Gavan Murphy, Director of Marketing EMEA, Globalstar

It's no secret to any of us that we are living in an unsettled, even troubled world. Disasters both man-made and naturally occurring are as we speak affecting communities in wide swathes of our planet. Humanitarian relief efforts are currently underway across the globe, delivering life-saving support to help people impacted by drought, famine, environmental cataclysm, political upheaval, and civil unrest. Of course, now relief agencies are also faced with the extra challenges posed by the COVID-19 pandemic.

It's good news that today there is an array of cutting-edge technology already available from dedicated specialist innovators to help aid organizations track and protect workers and assets as ongoing relief work is carried out.

One such provider is France-based Traksat, a Globalstar Value Added Reseller, which has recently seen

SPOT Gen3 - in hand. Photo courtesy Globalstar

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unprecedented demand for its satellite-enabled software solutions. Traksat exists to deliver the functionality needed by NGOs and military organizations as they conduct their operations in very demanding environments around the globe.

"Our deployments for NGOs have more than doubled in the last 18 months," reports Pierre Laporte, Traksat Founder and Managing Director. The company he established in 2012 has to date deployed over 1,400 Globalstar-enabled safety and tracking devices for humanitarian organizations internationally.

Software meets satellite

Traksat has developed a specialist software platform with extensive options, including 10 different mapping choices, to meet the particular needs of NGOs and government agencies. Complemented by reliable Globalstar satellite technology, humanitarian efforts are benefitting from a wide range of capabilities to support worker safety and other operational requirements. Specific map layers, for instance, provide additional live detail on traffic, weather as well as location and severity of local natural disasters.

Among the NGOs leveraging Traksat is Humanity & Inclusion (HI) which is deploying Globalstar's SPOT Gen 3 satellite messengers and SmartOne Solar IoT tracking devices to protect relief workers and manage operations. New-York headquartered International Rescue Committee, rescue.org, also uses Traksat and SPOT devices in numerous African countries to safeguard and track aid workers. Fellow NGO ACTED is similarly using SPOT Gen3s in Niger.

Globalstar technology has also helped safeguard workers for the Lebanese Red Cross, and for Disaster Tech Labs which has been supporting people and rebuilding communities since 2016 during the migration crisis in Europe and the Middle East. Organizations which have provided disaster relief in Haiti, USA and elsewhere have also benefitted from reliable and economical satellite-enabled connectivity and safety.

In Traksat's longest-standing project, over 250 Globalstar-enabled devices are providing staff security and supporting vehicle management for HI's humanitarian workers in DRC

(Democratic Republic of Congo), CAR (Central African Republic), Chad, Mali, Burkina Faso, and Niger, as well as in Colombia. With global headquarters in Lyon, and currently ranked world's 12th largest NGO, Nobel-Prize winner HI (formerly known as Handicap International) operates in situations of poverty and exclusion, conflict, and disaster, supporting disabled and vulnerable people to help them meet their basic needs, improve living conditions, and promote respect for their dignity and fundamental rights.

"Technology and support from Traksat and Globalstar play a big part in helping us meet our security and fleet management needs; we are able to consider geolocation as a key operational asset and never as a constraint," says Emmanuel Bertolus, Logistics Manager at Humanity & Inclusion. HI equips staff with SPOT Gen3s so they can stay connected with colleagues when in locations where alternative communications networks are inadequate. In an emergency, the device's SOS button raises an alert and instantly sends the user's GPS location to HI's central operations centre and local coordination sites, from where a rescue can be initiated.

Operationally, especially in places like desert and jungle, it's often impossible for a worker to know his or her exact location, or, for instance, if they have crossed any local or national borders. Knowing their own position in precise relation to fellow team members, or the nearest hospital or operations hub, is critical to ensure worker safety and security. The Traksat-Globalstar platform enables geo-fencing options which include alerts when two or more trackers are in the same predefined radius or when one tracker is moving away from the others. This is particularly useful to secure a convoy of cars, for example, or get a notification when a group of people are gathering at the same location. The system can also raise an alert should the user inadvertently travel beyond a pre-designated area.

The devices can be assigned to one or more groups, or one or more users inside each group. The system can also be configured to allow a range of rights and permissions from simple read-only access to complex full administration.

High priority alerts can be relayed by secured email and/or SMS and be displayed on the platform with a specific flag. An alarm sound and red banner in the messages panel will alert operations staff that there is an emergency. A voice alert via a phone call to registered numbers is another Traksat option.

All this means that NGOs' security teams can keep a watchful eye on staff in the field. For HI, should tracking suggest something might be wrong, security and contact protocols are initiated, and if needed, rescuers know exactly where to go thanks to the system's instant and accurate positioning information.

Economical price, and ease of use, with no need for wired installation, are compelling personal protection features for HI. Explains Laporte: "Even to install simple tracking devices in vehicles requires a certain level of installer competence and this is something that simply can't always be guaranteed in some remote regions. SPOT, on the other hand, needs only a few minutes to set up and it's ready to use." Where situation-appropriate, low-energy, low maintenance SmartOne Solar units are fitted to vehicles via simple cabling to enable reliable IoT tracking.

Laporte says a big benefit of SPOT devices is simplicity; "The NGOs appreciate this, particularly if faced with danger or other emergency, help is just a button press away."

Keeping workers safe and secure in places of political unrest poses additional challenges. Crews from one Traksat NGO customer carry SPOT Trace devices for personal safety. The device helps to monitor staff as they travel across remote and hazardous regions via motorcycle, car, or boat. These relief workers face numerous risks, especially hijack and vehicle theft, as well as breakdown and accidents. SPOT Trace is acting as an early warning system which complements the organisation's in-house security protocols.

Pandemic in perspective

The COVID-19 worldwide pandemic brought chaos in many different ways. But in areas with many pre-existing societal challenges, the incremental relative impact was not as dramatic as elsewhere. Observes Laporte: "The pandemic has to be looked at in perspective. It struck, in many places, amid a landscape of deep instability, both political and otherwise, and many other crises which have had a more devastating toll on the population."

"Ebola, drought, famine – these did not stop with the arrival of Covid. Car-jackings by armed street gangs, this is happening now but also before 2020. This is what people in the field are dealing with," he continues.

Laporte shares: "The NGOs we work with are deployed in some extremely challenging environments, places which are tragically affected by numerous contagions and other struggles." The impact of the 2020 pandemic, relatively speaking, in some contexts, has not been as dramatic as in other locations around the globe. In view of the tragedy that has been caused by Ebola, for example, still one of the deadliest killers in Africa, Covid-19 is commonly regarded in some regions as more or less the most recent setback to a community already beset with huge security and health devastation.

The pandemic compelled some NGOs to pause or temporarily downscale some of their operations. For example, in Mali, several initiatives had to stop because so many NGO staff became ill. Relief work did carry on, however, even though the scale of operations were forcibly reduced. In fact, according to Laporte, at the height of the pandemic, several new humanitarian missions were opened up, providing fresh support to countries devastated by disease, absence of clean water, and other conditions.

Capabilities come to light

Laporte has discovered that during the pandemic, some NGOs have, perhaps to their own surprise, become aware of numerous benefits of having an advanced software platform, supported by reliable satellite connectivity, at their disposal. "Our customers realized, possibly really for the first time, the full utility of our SaaS [software as a service] and online remote platform."

"Staff were able to maintain the same level of in-the-field monitoring, surveillance and worker protection even if they were working from home or re-deployed to operations hub offices or headquarters," he says. For some France-based NGOs, for instance, for much of 2020, head offices were attended by only about 10 percent of their usual number of employees. Even with this skeleton crew, relief operations in Africa, and the workers carrying them out, kept being supported thanks to Traksat's and Globalstar's technology.

The NGOs' relief work simply had to keep on going; even with teams dispatched to their home offices. Says Laporte: "They were able to continue overseeing their operations, monitor assets, manage staff safety and security, and this is precisely the purpose of the tools we give them."

Operatives are even able to customize the communications links remotely and on-the-fly. Laporte explains that the alert process can be easily configured to, for example, link directly to a regional hospital should NGO staff be unavailable or unable to travel to a specific remote site as they normally would in pre-Covid times.

"I think that the unexpected new challenges that have emerged during the pandemic have shone a new light on how powerfully and flexibly the technology and ecosystem can be leveraged," he says.

Customers who previously had not had cause to use the technology to its full capability are suddenly faced with new challenges such as staff health absences and redeployments. For the first time, they are becoming aware of the scale of capability which the technology offers – capability that enabled critical humanitarian work to carry on.

Unfortunately, security is - and it looks like always will be - a major consideration for humanitarian organizations and their workers. Fortunately, innovative software platforms complemented by cost-efficient satellite technology are on hand.

The final word goes to Laporte: "Security will always be a priority, and this has not changed with the pandemic. Some projects were paused, mission priorities were revised, and teams restructured or redeployed. But providing the most urgently needed direct and immediate relief remains top priority: This goes hand in hand with protecting staff. Both are never compromised."

NGO workers in Chad - with SmartOne Solar - solar-powered IoT tracker. Photo courtesy Globalstar

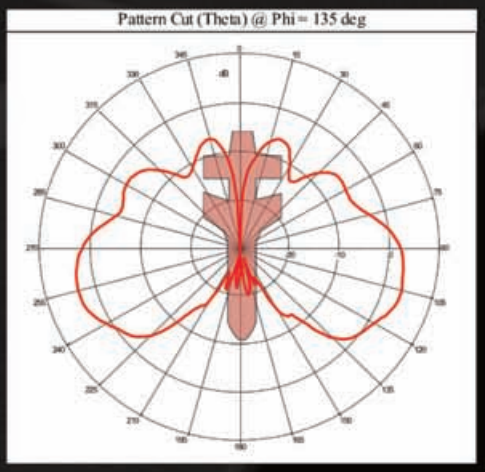
Conformal Antennas

Designed, manufactured and tested
Bespoke customer designs

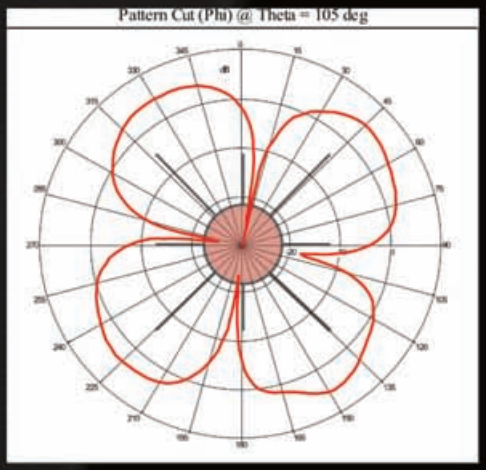
- 1input passive design
- Greater coverage
- Aerodynamic
- Ideal at high speed

Printech

Parameters	Description
Frequency Band	4.5GHz
VSWR	< 1.5:1
Peak Gain	4.9dBi
Half-Power Beamwidth (HPBW)	Referring to results for detail
Polarisation	Linear Vertical
XPD	>30dB
Configuration	Conformal Flight-Qualified PCB
Connectorisation	RG188 Coaxial
Footprint	Diameter = 76.2mm, Length = 75mm
Mass	TBC



Right: 2D radiation patterns
Below: Curved Antenna showing radiation patches.



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